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## ABSTRACT

This federally funded project was designed to develop, implement, and evaluate a best practices inservice model to train teachers to provide services in least restrictive environments for preschool children with emotional/behavioral disorders. Through collaborative planning among the University of Minnesota and selected Minnesota public schools, the project placed primary emphasis on six validated best practices: (1) organizing environments to prevent behavior problems; (2) facilitating social integration; (3) behavior management; (4) actively including families; (5) establishing functional communication skills as an alternative to socially motivated challenging behaviors; and (6) coordinating the provision of educational services with ongoing health monitoring. District personnel in rural and urban areas in Minnesota received workshop training on the best practices to enable them to facilitate successful implementation of the innovative practices model. Technical assistance teams were established to assist in training and support. This final report presents goals and objectives; the project's theoretical framework; research/evaluation findings; and project impact. Appendices comprise the bulk of the report and include: an article reprint, "Districtwide Technical Assistance Teams: Designing Intervention Strategies for Young Children with Challenging Behaviors" (Mary A. McEvoy and others); a conference paper, "Coordinating Preservice and Inservice Training of Early Interventionists To Serve Preschoolers Who Engage in Challenging Behavior" (Joe Reichle and others); and training modules on functional assessment, augmentative and alternative communication, intervention, and monitoring procedures. (Some papers contain references.) (JDD)

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# Developing and Evaluating A Model of Inservice and Technical Assistance to Prevent Challenging Behavior in Preschoolers

## FINAL REPORT

Early Education Programs  
U.S. Department of Education  
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## ABSTRACT

### Developing and Evaluating A Model of Inservice and Technical Assistance to Prevent Challenging Behavior in Preschoolers

#### An Early Education Programs For Children with Disabilities Project

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The purpose of grant project, Developing and Evaluating a Model of Inservice and Technical Assistance to Prevent Challenging Behavior in Preschoolers, was to develop, implement and evaluate a best practices inservice model to train teachers to provide services in least restrictive environments for preschool children with emotional/behavioral disorders. Specifically, the project was designed to make public school professionals more self-sufficient in the delivery of services to young children with behavior problems.

The project was based on the premise that 1) school districts in Minnesota are interested in improving services in least restrictive environments for young children with emotional/behavioral problems, 2) training materials developed must clearly communicate precise strategies for best practices for designing, implementing and evaluating interventions designed for children with challenging behavior and 3) that district personnel can be trained to serve on Behavioral Technical Assistance teams to assist with the implementation of the best practices procedures introduced in intensive inservice training workshops. Through the collaborative planning among the University of Minnesota and selected Minnesota public schools, the design of the project placed primary emphasis on five validated best practices for working with young children with emotional/behavioral difficulties. These are 1) organizing environments to prevent behavior problems; 2) conducting functional analysis of the communicative intent of behavior problems; 3) designing effective behavioral interventions: Identifying antecedents, and consequences; 4) training social and communication skills and 5) working with families and related service personnel.

District personnel in rural and urban areas in Minnesota received workshop training on the five best practices listed above to enable them to facilitate successful implementation of the innovative practices model. Technical Assistance teams, comprised of district professionals (early educators, speech-language pathologists, school psychologists, physical and/or occupational therapists) were established to assist in the training and support of other objectives. The five best practices were disseminated to teachers throughout Minnesota during a week long Summer Institute, co-sponsored by the Minnesota Department of Education. State-wide and nation-wide information and materials related to the innovative practices model for the education of young children with emotional/behavioral disorders in the least restrictive environment were developed and disseminated.

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## I. GOALS AND OBJECTIVES

1. To establish and replicate, throughout three Minnesota school districts, a best practices model for providing inservice and technical assistance to individuals responsible for educating preschoolers with emotional/behavioral disorders in least restrictive environments.
  - 1.1 Identify a district wide Technical Assistance Team
  - 1.2 Train the Technical Assistance Team
  - 1.3 Develop operating procedures for the Technical Assistance Team
  - 1.4 Generate district wide support for the Technical Assistance Team
  
2. Develop an intensive workshop on the best practices model to support school districts interested in implementing the proposed model of inservice and technical assistance
  - 2.1 Develop and implement intensive training workshops
  
3. To develop and conduct a one-day workshop each year to assist representatives from institutions of higher education in Minnesota to develop and implement preservice curriculum for teacher trainees that reflect best practices emphasized in this proposal
  - 3.1 Design and deliver inservice
  - 3.2 Plan network of intensive summer courses
  
4. To develop and disseminate on a statewide and nationwide basis information and materials related to the best practices model for the education of young children with emotional/behavioral disorders in least restrictive environments.
  - 4.1 Develop training modules
  - 4.2 develop project brochure
  - 4.3 Develop and disseminate quarterly newsletter
  - 4.4 Develop and disseminate handouts
  - 4.5 Generate empirically based articles
  - 4.6 Conduct training workshop

## II. THEORETICAL FRAMEWORK FOR THE PROJECT

### Extent to which the Project is Based on Previous Research

Challenging behavior has been defined as "behavior emitted by a learner that results in self-injury or injury of others, causes damage to the physical environment, interferes with the acquisition of new skills and/or socially isolates the learner" (Doss & Reichle, 1991). While there is a strong consensus that providing educational services in inclusive educational environments is critical, often times children with challenging behavior are not readily included (Giangreco & Putnam, 1992). Inclusion efforts often fail for many children with disabilities, due to their engagement in challenging behaviors (Danforth & Drabman, 1989; Walker & Rankin, 1983; Safran & Safran, 1984; Safran & Safran, 1987). Often, teachers and related service personnel are faced with an overwhelming array of behavior problems that must be addressed quickly and efficiently in order to create effective and long term inclusion opportunities. Program directors, professionals and parents face a number of challenges that include identifying procedures that are the least intrusive yet most effective and practical in inclusive settings where service providers may have had little prior experience with serving children with disabilities who exhibit challenging behavior.

In a recent Minnesota state wide survey (May 1993) only 95 of the 464 respondents indicated they currently use a functional analysis approach for assessing learners who exhibit challenging behavior. In addition, results from a 1990 state wide study indicate that Minnesota's current system for meeting the needs of children and youth with emotional and behavioral disorders is not working (Minnesota Department of Education, 1990). In order to respond to the needs of children with emotional and behavioral disorders, several areas that must be addressed were identified. These areas include involving parents in a meaningful way in the decision making process, coordinating services and service delivery across child serving agencies, and supporting quality staff and services (Minnesota Department of Education, 1991).

To meet the challenges facing teams serving children with disabilities, local school districts need well planned, practical, and socially validated procedures that proactively address the behaviors emitted by preschoolers.

These procedures must be disseminated to administrators, teachers, other service providers, and parents. The presentation must include sufficient implementation support to insure that they have an opportunity to be successful.

In addition to considering children's needs in existing preschool environments, including their homes, careful attention must be directed at the social obligations and opportunities of the children's next educational environments (e.g., day care, kindergarten, latch key). Increasingly, there is a consensus that a continuum of activities that range from inservice presentations to longitudinal on site technical assistance must be developed, implemented, evaluated and replicated rigorously.

The following empirically validated statements constituted the basis for this project. Specifically we believe that:

**•THERE EXISTS A SIGNIFICANT PROPORTION OF YOUNG CHILDREN WHO EXHIBIT CHALLENGING BEHAVIOR**

Brandenberg, Friedman, and Stern (1987) have reported that 14-20% of normal and at-risk children exhibit behavioral and emotional problems. In addition, other investigations have estimated that between 13% and 21% of young children with identified developmental disabilities have severe behavior disorders (Chess & Hassibi, 1971; Donahue & Abbas, 1971; Eaton & Menolascino, 1982; Schroeder, Schroeder, Smith & Daldorf, 1978). For example, in the state of Minnesota there are 8731 preschoolers identified as having special educational needs. Of these children, 490 are described as having severe emotional/behavioral problems. Although no incidence figures are available, it is reasonable to assume that incorporating the incidence of children with mild and moderate behavior disorders to the preceding proportion would significantly raise this incidence.

**•NATIONAL, AS WELL AS STATE AND LOCAL, SCHOOL ADMINISTRATORS HAVE DESCRIBED SERVING YOUNG CHILDREN WITH DISABILITIES WHO EXHIBIT CHALLENGING BEHAVIOR AS A CRITICAL PRIORITY.**

Retrospective analyses suggest that a significant proportion of individuals with severe behavior problems had onset in early childhood (Green, 1967; Schroeder, Mulick, & Rojahn, 1980). Unfortunately, among many who serve preschoolers who engage in challenging behavior, there is a tendency to

believe that they may 'outgrow' challenging behavior. This in turn fosters a benign ignoring of low level repertoires of self injury, aggression and stereotypic behavior. Actually, evidence suggests that problem behavior emitted by 'at-risk' preschoolers is not outgrown, and in fact, has a propensity to worsen over time (Green, 1967; Schroeder, Mulick, & Rojahn, 1980, Smeets, 1971).

Will (1984) has noted that children with behavior problems, to a great extent, are not benefitting maximally from their educational placements. In part, this may be a direct result of teachers' and other service providers' propensity to rely more on reactive/repressive intervention strategies (Gross, 1990; Wexler, 1978; Mace & Shea, 1990). That is, as the frequency and intensity of behavior problems increase, there is a tendency for educators to more heavily rely on restrictive and reactive intervention procedures (Evans & Meyer, 1985). For example, within the state of Minnesota, the Department of Education has designated strategies for addressing positive approaches to the management of challenging behavior among preschoolers as one of their highest priorities. This need has become critical since the enactment of 'Use of Behavioral Interventions with Pupils', Education Rule 3525.2925, which governs the use of aversive and deprivation procedures that many school personnel have relied on for managing challenging behavior. The rule also requires that before a regulated intervention may be used, positive interventions must be tried, and options exhausted.

This points to a need to increase school personnel's repertoire of positive, proactive intervention. Schloss, Sedlacek, and White (1983) observed that regular educators tend to have little tolerance with children who engage in challenging behavior. Similarly, Reichle (1990) observed that among regular educators, often there is a tendency to refrain from consequenceing socially acceptable behavior. At the same time, there is a propensity to implement mild punishment and response cost procedures contingent on the emission of less socially acceptable behavior. Taylor and Carr (1993) reported that over time children may actually shape teachers behavior to increasingly reinforce challenging behavior. For example, a child's escape motivated problem behavior may be maintained by negative reinforcement because as soon as the unpleasant task demand is made on the child, the child begins screaming and yelling. The teacher withdraws the request and the behavior stops, thus

increasing the likelihood that when a request is made of that child she will begin yelling and screaming because that leads to the teacher stopping the request.

Similar coercive interaction patterns between parents and children have been documented (Patterson, 1982). Ramsey, Patterson, and Walker (1990) found that the intensity of the behavior increases because it is reinforced. They concluded that the more extreme and intense the maladaptive behaviors at an early age, the more likely the child will be to display the antisocial behavior and that it will eventually generalize to new settings.

**•EXISTING EVIDENCE SUGGESTS THAT A SIGNIFICANT PROPORTION OF PRESCHOOL EDUCATORS (AND RELATED THERAPY DISCIPLINES) HAVE A INADEQUATE KNOWLEDGE AND EXPERIENTIAL BASE TO SERVE THESE CHILDREN ADEQUATELY.**

Recently, recognition of the significant need in the area of best practices dissemination in the area of challenging behavior was highlighted in a national working conference on positive approaches to the management of challenging behavior sponsored by the National Institute on Disability Research and Rehabilitation (Reichle, 1990). Among the most critical priorities identified related to the area of challenging behaviors were prevention and training. One critical priority identified involved preparing early educators and parents to identify precursors to challenging behavior and implement proactive intervention strategies to interrupt the chain of events that can lead to the development of more intense and frequent repertoires of challenging behaviors. More recently other investigators have called for a significant infusion of pretraining and inservice efforts aimed at preventing the emergence of challenging behavior (Guess, 1992). Despite the clear need for such efforts, few are evident.

**•IT IS IMPORTANT TO ESTABLISH AN ENVIRONMENT THAT PREVENTS CHALLENGING BEHAVIORS IN PRESCHOOLERS.**

Prevention is the best form of intervention (Zirpoli & Melloy, 1993). One way to prevent challenging behaviors is to carefully structure the environment (McEvoy, Fox, & Rosenberg, 1991; Nordquist & Twarsdosz, 1990). During the last ten years, a number of researchers have developed guidelines for designing settings (e.g., O'Brien, Porterfield, Herbert-Jackson, & Risley, 1978; Hursh, Sayer, & House, 1982; Kernan, Begab, & Edgerton, 1983). In

addition, a number of studies have examined the relationship between materials and child behavior including, but not limited to, social interactions (i.e., Montes & Risley, 1975; Twardosz, Cataldo, & Risley, 1974; Martin, Brady, & Williams, 1991; Beckman & Kohl, 1984; Rincover, Cook, Peoples, & Packard, 1979). Children with challenging behaviors often require intensive support and individual attention for learning and environmental interaction. When such support is not available, the children are often passive or disruptive and are not engaged in stimulating activity. Training on environmental arrangement is provided in order to assist personnel in optimally arranging the physical, social, and programmatic environments for young children with challenging behaviors. Specific procedures are taught to (a) enhance teacher child contact time; (b) minimize disruptions and unprogrammed transitions; and (c) promote structured and incidental social interaction between children with disabilities and their peers.

**•BEST PRACTICE LITERATURE SUGGESTS THAT A CONTINUUM OF INSERVICE THROUGH TECHNICAL ASSISTANCE REFLECTING THE SIX INNOVATIVE PRACTICES AND FIVE INSERVICE/TECHNICAL ASSISTANCE COMPONENTS DESCRIBED BY CAMPBELL (1990) REPRESENTS A VIABLE APPROACH TO THE NEED AREA IDENTIFIED.**

Parents, caregivers, and service providers need to be trained through qualitatively sound inservice training programs (Campbell, 1990). Bailey (1989) corroborated this observation by concluding that the most immediate short term personnel needs are likely to be met through a continuum of inservice mechanisms that range from intensive didactic provision of information to longitudinal-onsite technical assistance. There appears to be a growing consensus that longitudinal-onsite technical assistance represents a critical component of any exemplary inservice training model. Fredericks and Templeman (1990) reported that episodic training that is not linked to direct 'hands on' application with families and children is doomed to result in a limited impact on service delivery.

Numerous investigators have described an explicit technology that can be implemented to establish positive atmospheres so that teachers and parents are able to anticipate situations that are likely to exacerbate challenging behavior and find ways to circumvent these situations (LaVigna & Donneilan, 1986; Meyer & Evans, 1986; Meyer & Evans, 1989; O'Neill, 1985; and

numerous others). A major component of establishing a proactive approach to the prevention of serious repertoires of challenging behavior involves being able to establish meaningful skills that are motivating, age appropriate and matched to the unique preferences and needs of individual students (Meyer, Eichinger, & Park-Lee, 1987). We believe that there are six identified areas of best practice that must be represented in any model of inservice and technical assistance directed at preventing and remediating emotional/behavioral problems exhibited by young children. Research findings and educational applications have indicated the usefulness of these best practices in providing effective services for children with challenging behaviors. Furthermore, together the practices comprise a comprehensive model of service delivery, covering a range of disciplines and incorporating educational practices from the fields of special education, child development, speech/language pathology, psychology, and other areas appropriate to the education of young children. A rationale for, and description of, each best practice topic is described in the paragraphs that follow.

Best Practice A: Designing environments that address the needs of young children with disabilities who exhibit challenging behavior. During the last ten years, a number of researchers have developed guidelines for designing settings (e.g., O'Brien, Porterfield, Herbert-Jackson, & Risley, 1978; Hursh, Sayer, & House, 1982; Kernan, Begab, & Edgerton, 1983). In addition, a number of studies have examined the relationship between materials and child behavior including, but not limited to, social interactions (i.e., Montes & Risley, 1975; Twardosz, Cataldo, & Risley, 1974; Martin, Brady, & Williams, 1991; Beckman & Kohl, 1984; Rincover, Cook, Peoples, & Packard, 1979). Children with challenging behaviors often require intensive support and individual attention for learning and environmental interaction. When such support is not available, the children are often passive or disruptive and not engaged in stimulating activity. Training on environmental arrangement is provided in order to assist personnel in optimally arranging the physical, social, and programmatic environments for young children with challenging behaviors. Specific procedures are taught to (a) enhance teacher child contact time; (b) minimize disruptions and unprogrammed transitions; and (c) promote structured and incidental social interaction between children with disabilities and their peers.

Best Practice B: Facilitating social integration of young children with disabilities who exhibit challenging behaviors. Successful transition for persons with disabilities through life hinges on their ability to interact with persons without disabilities (Polloway, 1987). Social skills should be taught at all age levels but particularly in the preschool and elementary years since children are learning life-long response patterns (Garwood & Page, 1979). Unfortunately, many persons who exhibit challenging behaviors typically experience difficulty in the development of social interaction skills. Problems in this area of development may be compounded by difficulties in other related areas such as communication, gross motor development, and cognitive functioning. The purpose of training on this topic is twofold. First, parents and agency personnel are taught to use several validated methods to improve the social interaction skills of the children by incorporating therapy objectives (e.g., speech/language therapy, physical therapy, occupational therapy) into the daily routines comprised of functional activities. Second, roles that parents and families, special and general education teachers, other service providers, and school administrators can play in promoting social integration are highlighted.

Best Practice C: Behavior Management. For many teachers, as well as other service providers, information on the use of appropriate behavioral management techniques is a critical need. According to Kerr and Nelson (1989), children with severe behavioral disorders often present different management problems than their less involved peers. There is generally a limited repertoire of behavior as well as more stereotypic behavior problems that interfere with learning (Kaufmann, 1981; Spradlin & Spradlin, 1976). Teachers must be taught to assess behavior problems, select social functions expressed via challenging behavior for intervention, design appropriate interventions, and to monitor and assess progress. This requires that they have a firm grasp on functional assessment analysis and its role in delineating possible social motivations for challenging behavior. Particular emphasis is placed on designing interventions that focus on the use of positive (i.e. nonaversive) procedures. The interventions are nonreactive, that is, intervention takes place to prevent the challenging behavior from occurring. Preventing the problem behavior may mean an environmental rearrangement, or teaching the child a new socially appropriate behavior that functionally replaces the undesired behavior. Additionally it may be working with

interventionists to alter their style of interaction with the child to minimize reinforcing challenging behavior emissions. The nonreactive approach to intervention contrasts with reactive procedures which typically follow the occurrence of undesirable behavior and tend to rely on aversive/punitive procedures.

Best Practice D: Actively including families in the design of comprehensive intervention strategies that cross home school and community environments

Families of children with disabilities have diverse training, informational, and support needs (Bailey & Simeonsson, 1984; Benson & Turnbull, 1986; Turnbull & Turnbull, 1986). The importance of providing a comprehensive array of services for parents of young children with handicaps has been underscored by the Education of the Handicapped Act Amendments of 1986 (P.L. 99-457), which requires participating programs to develop an Individualized Family Service Plan (IFSP) for all participating families. The purpose of presenting information on this topic is to assist service providers in working with families to develop, implement, and monitor a variety of support and training services that enhance rather than impose on the social composition and activities of the family unit. Professionals need to learn to project a posture of cultural humility and respect in order to gain parental trust; once trust is established, families of young children are much more likely to welcome their suggestions (Harry, 1992).

Best Practice E: Establishing functional communication skills as an alternative to socially motivated challenging behaviors. One important aspect of an early education curriculum that can have a significant impact on preventing repertoires of socially motivated challenging behavior involves the establishment of socially acceptable alternatives to gain control over one's environment. Control may include gaining access (to attention and/or goods and services) and avoiding or escaping undesired events. Perhaps the most socially acceptable strategies to achieve this control involve the acquisition of a generalized communicative repertoire. The past ten years have resulted in an impressive and growing base of empirical demonstrations of naturalistic intervention procedures that can be successfully implemented to establish communicative repertoires that compete with socially motivated challenging behavior (Carr & Durand, 1985b; Durand & Carr, 1987; Durand & Kishi, 1987;

Horner et al., in press; Smith, 1985; and a host of others). A large proportion of these procedures have been implemented with adults who had extensive histories of severe challenging behavior. The implication is that this technology applied to young children with a less established history of challenging behavior would be even more powerful.

The importance of establishing a socially acceptable communicative repertoire has implications that go far beyond the simple deceleration of challenging behavior. There is a developing empirical base to suggest that communicatively motivated challenging behavior may significantly influence future interaction patterns between teachers and children. Carr, Taylor, and Robinson (1991) demonstrated that learners who engaged in attention seeking challenging behavior were effective in recruiting greater and greater attention from teachers and that learners who engaged in challenging behavior to escape social contact received progressively less attention from their teachers over time. In both instances, interaction patterns developed in the natural teaching environment that actually reinforced the emission of challenging behavior. When queried, teachers reported that they were aware that their behavior was reinforcing the socially unacceptable behavior but the alternative was to endure the challenging behavior (J. Taylor, personal communication). This suggests that in many instances the social motivation for challenging behavior may be reasonably straightforward to identify but prospective interventionists do not have sufficient skills to design an efficient proactive intervention strategy.

Developing communication alternative to the emission of challenging behavior requires a significant knowledge and effort. First, interventionists must be aware of the available communicative modes that can be implemented. Reichle, York, and Sigafoos (1991) have described graphic (e.g., line drawings symbols, photographs) and gestural (e.g., gestures, signs) as well as vocal mode alternatives. Second, the communicative function that is selected for instruction must carefully match the function of the challenging behavior that is to be replaced (Carr & Durand, 1985b). Third, the interventionist must consider the universe of teaching opportunities that must be utilized in order to establish communicative alternatives that are sufficiently generalizable to compete with the range of situations in which the learner is likely to engage in challenging behavior.

Unfortunately, a large proportion of early educators have very limited knowledge in the area of communication intervention in the vocal mode and virtually no knowledge of augmentative communication modes (Reichle, 1983; 1987). To a great extent the knowledge gap in the area of augmentative and alternative communication is directly attributable to the lack of appropriate preservice training of early educators and related disciplines. For example, less than half of masters preparation programs in speech-language pathology require course work in the area of augmentative communication (Paul Brown, personal communication).

Best Practice F: Coordinating the provision of educational services with ongoing health monitoring. Horner et al. (1990) have suggested that in many instances, illness, disease, or injury, may provoke repertoires of challenging behavior that otherwise would not have been emitted. For example, some learners may be more predisposed to seek attention/comfort when they are experiencing otitis media. In other instances, setting events may result from the action of others. For example, some learners may be more apt to engage in challenging behavior in the presence of noise or crowded conditions. In still other instances, the prior history of events that have occurred on a given day may predispose a learner for challenging behavior. For example, a learner may be apt to tantrum when given a verbal direction, if he has in the previous 10 minutes been asked to pick up his toys and go wash his hands (compared with no directions being given in the 10 minutes preceding the direction).

If service providers and parents are to be placed in a position to fully implement the innovative practices just described in an effort to proactively address repertoires of challenging behavior, they must be able to participate in the identification of antecedents, consequences, and setting events that provoke repertoires of challenging behavior so that intervention procedures can be designed that either remove provoking stimuli or result in teaching the learner socially acceptable strategies to remove or otherwise resolve provoking events. To do this requires that interventionists acquire some ability to engage in functional assessment of behavior that includes the rigorous application of ecological inventories.

### Inservice and Technical Assistance Model

Campbell (1990) proposed that quality inservice training programs result in: 1) delineation of specific training needs, 2) qualified inservice training staff resulting from linkages with university personnel, 3) incentives for personnel to participate in training, 4) clear identification and evaluation of expected outcomes for families and children and 5) supervised application of information for families and children. Bailey (1989) corroborated this observation by concluding that the most immediate short term personnel needs are likely to be met through a continuum of inservice mechanisms that range from intensive didactic provision of information to longitudinal-onsite technical assistance. There appears to be a growing consensus that longitudinal-onsite technical assistance represents a critical component of any exemplary inservice training model. Fredericks and Templeman (1990) reported that episodic training that is not linked to direct 'hands on' application with families and children is doomed to result in a limited impact on service delivery.

As stated previously, this Technical Assistance Model represented an extension of a model designed and implemented by Reichle (1990). It utilized a continuum of inservice activities beginning with didactic inservice training. Subsequently, a plan of cost shared technical assistance was established with a participating school district.

This Technical Assistance Model included six innovative best practices as a part of the **content** of the model (see pages 7 through 11 for a description of these best practices). The critical components of the Model's implementation activities met criteria for quality inservice training programs described above.

### **III. DESCRIPTION OF THE TRAINING MODEL, ACTIVITIES AND PARTICIPANTS**

#### **A. Description of the training model**

The training model developed as a result of this project was based on the premises that (1) participating school districts were interested in providing services in least restrictive environments for young children with emotional/behavioral problems; (2) a core transdisciplinary group of school district professionals could be taught to become expert deliverers

of longitudinal technical assistance; (3) this same group of professionals could, with the collaboration of university faculty, design and successfully implement inservice coursework delivered to other professionals and paraprofessionals in intensive workshops that were coordinated with professional advancement; (4) intensive workshops and on-site training could simultaneously serve both preservice and inservice students.

B. Activities

Goal #1: Established and replicated, a best practices model for providing inservice and technical assistance to individuals responsible for educating preschoolers with emotional/behavioral disorders in least restrictive environments for three Minnesota school districts.

1. University personnel worked carefully with public school administrators to identify inservice needs. A priority of the administrators and University personnel was to accumulate evidence that supported significant inservice/technical assistance need and to demonstrate that an inservice program was beneficial to the district. Once this evidence was accumulated, University project staff worked with the district to create a plan for the release time of professionals to establish a transdisciplinary team to become the expertise in the area of proactive approaches to the management of challenging behaviors for their school district.
2. In order to avoid selecting a team who may not have fully understood the scope of effort required from their involvement, Drs. McEvoy and Reichle organized an on-site two-credit 10-week course addressing proactive approaches to managing challenging behavior. This course was open to all district staff. Staff could take the course for academic credit (at their own expense) or they could participate at no cost if they do not desire university credit. See Appendix I for course syllabus.
3. At the conclusion of the course, individuals who wished to apply to become members of their school district's technical assistance team were recruited. Applications were submitted to a designated

school district administrators and course instructors provided feedback to the administration with respect to the applicants' grasp of course content, participativeness and diligence in the course. Teams were comprised of a minimum of three disciplines, including speech-language pathologists, special educators, early childhood educators, paraprofessionals, school psychologists, occupational and physical therapists.

4. Once the technical assistance team mastered the information contained in the initial coursework, a more sophisticated regimen of training was implemented that involved weekly six-hour sessions over a period of approximately 20 weeks conducted on site at schools within the participating school district. The purpose of these sessions was for the technical assistance team members to systematically apply the information that they had acquired to actual cases in a case study format similar in scope and sequence to case example focused training described by Anderson et al. (1993). A chronology of extended training topics and brief descriptions of training activities are described in Table 1.

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Insert table 1 about here.

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5. Once the team members had a firm grasp on assessment and intervention strategies, the technical assistance team divided its time between 1) acting as a planning agent and independent implementor of district wide inservice activities to increase peer's awareness and implementation knowledge of positive behavioral support strategies for individuals who engage in challenging behavior and 2) delivering on-site classroom or home specific technical assistance.
  - Creating a continuum of training  
A continuum of inservice activities that include awareness inservices, case study demonstrations, and university credit

courses were planned within each school district. Table 2 defines each of these levels and delineates involvement and benefit to both the university and public school community along with incentives to individual participants.

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Insert table 1 about here.

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- Providing longitudinal on-site technical assistance  
When an IEP/IFSP identifies a student as being in need of behavioral intervention they contact the technical assistance team. Once the technical assistance team is made aware of the IEP/IFSP's team need for technical assistance they implement the following procedures:
  - \* Conduct functional analyses of behavior including: interviews, observations, and environmental manipulations.
  - \* Recognize when it is necessary to refer a learner for medical evaluation of conditions that may contribute to or serve as setting events for challenging behavior.
  - \* Demonstrate skills necessary for arranging environmental modifications that will minimize emissions of challenging behaviors.
  - \* Develop proactive strategies, including communication interventions, that will help establish socially acceptable alternatives to socially motivated challenging behavior as well as promoting positive social interactions.
  - \* Collaborate with school staff and parents to ensure that proactive intervention procedures corresponding to needs

identified via a functional analysis are successfully implemented.

- \* Develop strategies to monitor learner change and implement troubleshoots when the need arises.

6. Evaluated and troubleshoot problems that arose in implementing "On-Site" technical Assistance. In the event that a technical assistance opportunity went awry, technical assistance providers were prepared to systematically analyze why the desired educational or social outcome was not achieved. The technical assistance teams were encouraged to place themselves in position to demonstrate the value of the technical assistance in order to justify expense associated with maintaining the team as a recurring budget item. The following types of data were collected in order to evaluate the technical assistance model:
  - consumer satisfaction surveys
  - learner change data
  - social validity
  - procedural reliability
  - extent to which the recipient of technical assistance generalizes information derived from the technical assistance team.
7. As the technical assistance teams worked through each of the previous mentioned activities, a set of operating procedures for the development of a technical assistance team were created (See Appendix II). Each team refined and adapted these procedures in order to meet the individual needs of their school district .
8. Once established, the technical assistance teams worked to generate district wide support. This entails meeting with professionals in the district to reassess their needs. The technical assistance team then determines their capability to meet these needs in the future.

Goal #4      Developed and disseminated state wide and nation wide information and materials related to the best practices model for the education of young children with emotional/behavioral disorders in least restrictive environments.

[See Appendix III]

## C. Participants

### Year 1 site - Anoka-Hennepin Public Schools

The Anoka-Hennepin Public schools was the initial site selected for participation in this technical assistance project. With an enrollment of approximately, 34,000 students, this district represents the third largest school district within the state of Minnesota. The district is supported by a full range of services including an extensive media and resource center. Within the state of Minnesota, the Anoka Hennepin Public schools have an excellent record of providing integrated educational opportunities for all learners. School district administrators directly involved with the model-inservice project include, Ms. Sue Butler (Director of Special Education), Ms Sherry Peterson (project specialist), and Ms. Bea LaRock (coordinator of early education services).

The Anoka-Hennepin Public Schools technical assistance team referred to as the Behavioral Assistance Team is made of up of five professionals: an early childhood special education teacher, a speech/language pathologist, an occupational therapist, a school psychologist and a paraprofessional.

Currently, the Anoka-Hennepin Public Schools have assumed complete financial responsibility for the Behavioral Assistance Team. It is a valuable resource within their district, and has continued to receive new referrals from professionals within the district as well as follow-up referrals. All but one of the original professionals are on the team and the one member who left the team was replaced. This replacement member was trained by the original members of the Behavioral Assistance Team.

### Year 2 site - North St. Paul Public Schools

North St. Paul Public Schools serve approximately 9,000 students living in the 42 square mile counties of Ramsey and Washington. The district has nine elementary schools. The primary liaison with the North St. Paul Public Schools is Ms. Sharon Cox, the Associate Director of Special Services.

The North St. Paul Public Schools technical assistance team referred to as the Positive Intervention Resource Team is made of up of four professionals: an early childhood special education teacher, a speech/language pathologist, an occupational therapist, and a school psychologist.

Currently, the North St. Paul Public Schools have assumed complete financial responsibility for the Positive Intervention Resource Team. It is a valuable resource within their district, and has continued to receive new referrals from professionals within the district as well as follow-up referrals. In addition, the team has expanded in order to serve elementary aged children as well as older children with more severe disabilities. The team has also begun to serve individuals within general education, as a preventative measure. All but one of the original professionals are on the team and the one member who left the team was replaced. This replacement member was trained by the original members of the Positive Intervention Resource Team.

#### Year 3 site - Chisago-Pine County Educational Cooperative

The Chisago-Pine County Educational Cooperative serves approximately 6,000 students. It encompasses a two-county area, approximately 20 to 85 miles north and slightly east of the greater Minneapolis area. The Chisago-Pine Educational Cooperative is committed to a policy of inclusive education and, like the Anoka-Hennepin schools, is strongly committed to a policy of educational inclusion. The primary liaison with the Chisago-Pine County Educational Cooperative is Mr. Gary German, Director of Special Education.

The Chisago-Pine County Educational Cooperative technical assistance team, referred to as the Proactive Alternatives for Learners Team is made of up of four professionals: two early childhood special educators, a speech/language pathologist and an occupational therapist.

Currently, the Chisago-Pine County Educational Cooperative has provided funds in order to release the Proactive Alternatives for Learners Team one half day per month. This enables the team to meet and to discuss issues/concerns within the area of the district that they serve.

#### IV. METHODOLOGICAL/LOGISTICAL PROBLEMS AND HOW THEY WERE RESOLVED

- A. Recruiting team members. Member of the year one site's technical assistance team were recruited by the administration of the district. Although this resulted in development of a well functioning technical assistance team, the model was changed during year two. During the second year, a course was offered in the identified school district (i.e., North St. Paul). Participants were recruited from within the district. Once the course was completed, the positions to be members of a district wide technical assistance team were posted. This method provided participants with knowledge regarding the technical assistance model and the roles of technical assistance team members. It also provided each of the participants and potential team members with content knowledge (e.g., regarding the functional assessment process and positive intervention strategies). In addition, it enabled project personnel to identify professionals within the district who had gained a firm grasp of the content. This information was then passed on to the district administrators, so an informed decision could be made regarding the selection process.
- B. Implementation of the technical assistance model in rural Minnesota. In more populated school districts, it was very rare for a member of the technical assistance team to be on the target child's IEP or IFSP team. However, in the rural site, many of the children referred to the technical assistance team were on the case load of at least one member of the team. This resulted in the technical assistance team member implementing the recommendations made by the team. As a result, when evaluating the extent to which the IEP/IFSP team implemented the program, and participated in the technical assistance process, this member on the technical assistance team was called upon to rate her own performance.
- C. Lack of referrals for technical assistance within the school district. In the absence of referrals for technical assistance, the North St. Paul technical assistance team adapted the method for recruiting recipients of technical assistance. Originally, the model was based upon a referral process.

Members of IEP/IFSP teams would refer a target child to the technical assistance team. The technical assistance team would in turn perform a functional assessment and then provide recommendations. However, during the second year of implementation with our second site, very few referrals were submitted. As a result, this technical assistance team adapted their "services" to meet the needs of the district. They began to assign themselves to specific sites. At these sites they would offer suggestions and meet with staff regarding specific problems or concerns. However, the professionals in the district did not need to submit a formal referral. This resulted in the technical assistance team being utilized throughout the district but did not require that professionals formally request assistance.

- D. Dissatisfaction among technical assistance team members. In the event that dissatisfaction arises among any member of the technical assistance team steps should be taken to immediately address the problem. The administration should be notified of the member's dissatisfaction. District administrators should then be called upon to remediate the problem and if necessary to replace the dissatisfied team member.

## V. RESEARCH/EVALUATION FINDINGS

Refer to tables 3 and 4 for outlined descriptions of research and evaluation activities and outcomes. Additionally, Appendix III contains detailed procedures and data displays that correspond to case studies.

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Insert tables 3 and 4 about here.

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## VI. PROJECT IMPACT

- A. Products [Appendix IV]
1. Developing and Evaluating A Model of Inservice and Technical Assistance to Prevent Challenging Behavior in Preschoolers: A Procedural Manual

2. Course Materials for an Introductory Course in Proactive Approaches to Managing Challenging Behavior in Preschoolers
  
3. Training Modules
  - a. Functional Assessment
  - b. Preference Assessment
  - c. Environmental Arrangement
  - d. Intervention Module
    - Communicative Replacements for Challenging Behavior
    - Biological/Medical Factors Related to Challenging Behavior
    - Schedules
    - High Probability Request Sequence
    - Offer of Collaboration
    - Preferred Item as a Distractor
    - Prespecify the Reinforcer
    - Choice Making
  - e. Prompting
  - f. Single Subject Designs
  
4. Interactive Training Modules
  - a. Functional Assessment
  - b. Augmentative and Alternative Communication
  - c. Environmental Arrangement

B. Dissemination activities

1. Specific courses

Epsy 5710: Positive Approaches to Managing Challenging Behavior in Preschoolers.

A University of Minnesota course taught off campus in two public school districts. The first offering in each district was taught by project personnel. The course second offering in each district was taught by members of each district's technical assistance team.

North St. Paul      October - November 1992  
 November 1993

Chisago-Pine County Educational Cooperative  
 September - October 1993

August 1994

CDIs 8606      Designing Intervention Strategies that Address  
Challenging Behavior

A University of Minnesota course taught by Dr. Joe Reichle. Enrollees are undergraduate and graduate students from the Department of Communication Disorders, the Department of Special Education, School Psychology and extension students from the community.

Spring 1992, 1993, 1994.

2.      Related courses

Drs. McEvoy and Reichle, along with other project staff had the opportunity to integrate the findings and materials of this project into a variety of course within the departments of Special Education and Communication Disorders. Each of these courses were offered once per year.

CDIs 5900	Augmentative Communication Technology
CDIs 5606	Language Assessment and Intervention - Early Stages
CDIs 5611	Augmentative Communication Systems
EPsy 5625	Education of Infants and Preschool Children with Disabilities
EPsy 5622	Programs and Curricula for Learners with Severe Handicaps
Epsy 5710	Contemporary Services for Persons With Developmental Disorders
EPsy 5625	Education of Infants and Preschooler Children with Developmental Disabilities
EPsy 8263	Design and Analysis of Experiments

3.      Workshops

McEvoy, M., & Davis, C. (1994, July). Effective prevention/remediation strategies for addressing the challenging behaviors of young children. Summer institute sponsored by the Department of Special Education, University of Utah, Salt Lake City, UT.

O'Neill, R., Davis, C., & Feeley, K. (1994, July). Effective prevention/remediation strategies for addressing the challenging behaviors of young children. Summer institute sponsored by the Department of Special Education, University of Utah, Salt Lake City, UT.

4. Conferences

Minnesota Society for Augmentative and Alternative Communication - February 1994

Paraprofessional Conference - May 1992, May 1993, May 1994

Wisconsin Society for Augmentative and Alternative Communication - October 1992, October 1993, October 1994

The Association for Individuals with Severe Handicaps - November 1992, November 1993, December 1994

DEC - December 1991, 1992, 1993, 1994

Midwest Symposium for Behavior Disorders - February 1992, February 1993, February 1994

5. Publications

DePaepe, P., Reichle, J., & O'Neill, R. (1993). Applying general case instructional strategies when teaching communicative alternatives to challenging behavior. In J. Reichle & D. Wacker (Eds.), Communicative alternatives to challenging behavior: Integrating functional assessment and intervention strategies. Baltimore: Paul H. Brookes.

Doss, L.S., & Reichle, J. (1991). Replacing excess behavior with an initial communicative repertoire. In J. Reichle, J. York, & J. Sigafoos (Eds.), Implementing augmentative and alternative communication: Strategies for learners with severe disabilities. Baltimore: Paul H. Brookes.

McEvoy, M., Davis, C., & Reichle, J. (1993). Districtwide technical assistance teams: Designing intervention strategies for young children with challenging behaviors. Behavioral Disorders, 19, 27-34.

McEvoy, M., & McConnell, S. (in press). Understanding the emotional and behavioral development of young children: 3-6 years. In Zirpoli, T., Understanding and affecting the behavior of young children. Columbus, OH: Merrill/Macmillan Publishing.

O'Neill, R., & Reichle, J. (1993). Addressing socially motivated challenging behaviors by establishing communicative alternatives. In J. Reichle & D. Wacker (Eds.),

Communicative alternatives to challenging behavior: Integrating functional assessment and intervention strategies. Baltimore: Paul H. Brookes.

Reichle, J., McEvoy, M., Davis, C., Feeley, K., Johnston, S., & Wolff, K. (1994). Coordinating preservice and inservice training of early interventionists to serve preschoolers who engage in challenging behaviors. Manuscript submitted for publication.

Reichle, J., & Johnston, S. (1993). Assessment strategies to identify communicative alternatives for socially motivated challenging behavior. In Topics in Child Language.

Reichle, J., & Johnston, S. (1993). Replacing challenging behavior: The role of communication intervention. In Topics in Child Language.

Reichle, J., & Light, C. (1992). Positive approaches to managing challenging behavior among persons with developmental disabilities living in the community. Center on Residential Services and Community Living. University of Minnesota, Minneapolis, MN.

Reichle, J., & Wacker, D. (1993). Communicative approaches to the management of challenging behavior. Baltimore: Paul H. Brookes.

Sigafoos, J., & Reichle, J. (1993). Distinguishing between socially and nonsocially motivated challenging behavior. In B. Abery & M. Hayden (Eds.), Meeting the needs of persons with mental retardation in community settings. Baltimore: Paul H. Brookes.

## 6. Papers Presented

McEvoy, M. (1994, September). Proactive approaches to managing challenging behavior in young children. Paper presented at the annual conference of the Kansas Association for the Education of Young Children, Manhattan, KS.

McEvoy, M., Reichle, J., Davis, C., Feeley, K., & Johnson, S. (1993, December). Establishing longitudinal technical assistance to enhance school districts' independence in serving persons with challenging behavior. Presentation at the annual conference of the Division of Early Childhood-Council of Exceptional Children, San Diego, CA.

McEvoy, M., Reichle, J., Rogers, E., Davis, C., Johnston, S., & Feeley, K. (1993, December). Effective strategies for addressing the challenging behaviors of preschool children with disabilities. Paper presented at the International Division of Early Childhood Annual Conference, San Diego, CA.

Reichle, J., McEvoy, M., Rogers, E., Feeley, K., & David, C. (1993, November). Proactive approaches to managing challenging behavior in young children. Paper presented at the TECBD National Conference on Severe Behavior Disorders of Children and Youth, Tempe, AZ.

Reichle, J., McEvoy, M., Rogers, E., Wolff, K., & Feeley, K. (1994, February). Proactive approaches to managing challenging behavior in young children. Paper presented at the Midwest Symposium for Leadership in Behavior Disorders, Overland Park, KS.

Reichle, J. (1991, April). Beginning a communication system with individuals who engage in challenging behavior. Presentation at Annual Meeting of the Minnesota Speech-Language-Hearing Association.

Reichle, J. (1992, March). Communicative approaches to the management of challenging behavior among preschoolers. Presentation at the annual conference of the Minnesota Society for Augmentative and Alternative Communication.

Reichle, J., & Johnston, S. (1993, November). Communicative approaches to managing challenging behavior. Short course presented at the annual meeting of the American Speech-Language-Hearing Association, Anaheim, CA.

Wacker, D., & Reichle, J. (1991, November). Communicative strategies resulting in the successful management of challenging behavior. A miniseminar presented at the Annual Meeting of the American Speech-Language-Hearing Association, Atlanta, GA.

- C. Impact within districts and within the state of Minnesota via summer institutes.

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Insert table 5 about here.

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## VII. FUTURE ACTIVITIES

In September 1994, the Department of Education Outreach Projects funded the grant project, A Replication and Dissemination of a Model of Inservice Training and Technical Assistance to Prevent Challenging Behaviors in Young Children with Disabilities, Principal Investigators Drs. Mary McEvoy and Joe Reichle. This Outreach Project is designed to replicate and extend the inservice model by establishing "on-site" capability within public school districts in collaboration faculty at participating Institutions of Higher Education, to address the needs of young children with challenging behaviors and their families in seven states across a three year funding period.

To date, two outreach sites, Iowa State University and State University of N.Y. Geneseo have participated in a training institute and are currently arranging for the 2-credit 10 week course Positive Approaches to Managing Challenging Behaviors in Preschoolers to be offered in their participating school districts. Both sites have made arrangements for the participating school districts to provide release time for a group of individuals, selected from the course, who will serve as members of the technical assistance team.

The University of Utah (the second year site) has just recently held a Winter training workshop/ Sixty five professionals in early childhood education attended this workshop and were introduced to this technical assistance model. Dr.,. rob O'Neill is currently in the process of assessing the needs and interest of local districts as potential outreach sites.

## VIII. ASSURANCE STATEMENT

As the co-principal investigators of the grant project Developing and Evaluating A Model of Inservice and Technical Assistance to Prevent Challenging Behavior in Preschoolers Grant # H024P10017-92 we certify that:

1. The full final report has been forwarded to ERIC.
2. Copies of the title page and abstract/executive summary have been sent to the following individuals/organizations:
  - Ms. Mary Vest - Office of Special Education Programs U.S. Department of Education
  - NEC\*TAS
  - National Clearinghouse for professions in Special Education
  - National Information Center for Children and Youth with Disabilities (NICHY)
  - Technical Assistance for Parent Programs Project (TAPP)
  - National Diffusion Network
  - Child and Adolescent Service System Program (CASSP)
  - National Regional Resource Center
  - MidSouth Regional Resource Center
  - South Atlantic Regional Resource Center
  - Great Lakes Area Regional Resource Center
  - Mountain Plains Regional Resource Center
  - Western Regional Resource Center
  - Federal Regional Resource Center

Signature Mary McEvoy

Date 1/30/95

Signature Car Reich

Date 1/30/95

## APPENDICES

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Table 1. Competencies acquired as a result of successfully completing a 10-week course addressing proactive approaches to managing challenging behavior.

Course Competencies
<ul style="list-style-type: none"><li>• Students will gain an understanding of socially motivated and non-socially motivated challenging behavior.</li><li>• Students will become familiar with a variety of medical/biological factors associated with challenging behavior.</li><li>• Students will gain an understanding of the relationship between communication and challenging behavior, and will be able to identify the communicative functions served by challenging behaviors.</li><li>• Students will become adept at utilizing the range of assessment strategies that may be used to determine the function of challenging behavior (including review of existing documents, the interview process, direct observations and environmental manipulations).</li><li>• Students will be introduced to a series of intervention strategies for individuals who have severe communication deficits.</li><li>• Students will become familiar with the implementation of environmental rearrangements and social interaction interventions used to address challenging behaviors.</li><li>• Students will become adept at implementing interventions that address communicative alternatives to escape motivated challenging behavior (Request to take leave, Rejecting response, Request for assistance, Request for attention).</li><li>• Students will become adept at implementing interventions that address communicative alternatives to obtain access motivated challenging behavior (Request for attention, request for assistance, request for desired items/events).</li><li>• Students will become adept at implementing interventions that address escape motivated challenging behavior that can not be honored (High-Probability Request Sequence, Tolerance for Delay of Reinforcement, Collaboration, Preferred Item as a Distractor).</li><li>• Students will gain an understanding of a variety of prompting strategies used within each of the interventions introduced.</li><li>• Students will gain experience evaluating and troubleshooting interventions.</li></ul>

Table 3. Case studies conducted through the technical assistance project.

Research Activities	Child Description	Dependent and Independent Variables	Results
1. Examining the Effects of using a preferred item as a distractor to address escape motivated challenging behavior	Five year-old male with severe disabilities who engaged in screaming behavior in order to escape dressing tasks.	<u>Dependent Variable:</u> Percent of time during the dressing activity that the child engaged in screaming behavior. <u>Independent Variable:</u> Using a preferred activity (i.e., walking with assistance) as a distractor during dressing tasks.	The preferred activity as a distractor program resulted in the child decreasing the percentage in which he engaged in screaming behavior from 50% to 0% over 40 implementation sessions, while simultaneously fading the intervention.
2. Examining the effects of a teaching communicative replacement for obtain tangible challenging behaviors in conjunction with a tolerance for delay program.	Five year-old male with severe disabilities who engaged in screaming behavior in order to gain access to preferred toys.	<u>Dependent Variable:</u> Percent of time during the play time activity that the child engaged in screaming behavior. <u>Independent Variable:</u> Intervention to teach child to activate a looptape in order to request a new toy.	Independent use of a looptape to request a new toy successfully replaced the child's screaming behavior. The participant's screaming behavior decreased from a range of 55%-80% to 0%-3%. Additionally, the learner began to tolerate a delay of the delivery of the preferred toy.
3. Examining the effects of teaching a communicative replacement for escape motivated challenging behavior in conjunction with a tolerance for delay program.	Four year-old male with severe disabilities participated in this investigation. His challenging behavior included destroying and throwing materials and running from instructional tasks.	<u>Dependent Variable:</u> The occurrence of challenging behavior, independent use of the leave-take response, and percentage of instructional task completed. <u>Independent Variable:</u> Using a preferred activity (i.e., walking with assistance) as a distractor during dressing tasks.	The participant in this investigation learned to independently request to leave a situation. This response functioned as a replacement for his challenging behavior. Additionally, the amount of the instructional task that he completed increased from 0% to 100% due to implementation of tolerance for delay procedures.

<p>4. Examining the effects of using a preferred item as a distractor in order to decrease escape motivated challenging behavior.</p>	<p>A four year-old girl with severe disabilities participated in this investigation. Her challenging behavior consisted of screaming in order to escape physical therapy related activities.</p>	<p><u>Dependent Variable:</u> The child's engagement in screaming behavior. <u>Independent Variable:</u> The use of a preferred item as a distractor while engaged in the nonpreferred task.</p>	<p>The child's crying behavior decreased when the preferred item was used as a distractor. Upon intervention, the crying behavior did not occur on 100% of the opportunities in 2 different therapeutic positions. It did not occur in 86% of another position and did not occur in 81% of the opportunities in a fourth position.</p>
<p>5. Examining the use of a preferred item as a distractor to decrease attention motivated challenging behavior.</p>	<p>A four year old typically developing young girl participated in this investigation. Her challenging behavior consisted of acting aggressively towards her peers while riding the school bus.</p>	<p><u>Dependent Variable:</u> Aggressive behavior exhibited by the child while riding the bus to and from school. <u>Independent Variable:</u> Using a preferred item (a variety of games and toys) as a distractor while riding the bus to and from school.</p>	<p>The child's challenging behavior decreased as a result of this intervention.</p>
<p>6. Examining the use of a preferred item as a distractor in order to decrease escape motivated challenging behavior.</p>	<p>A four year old typically developing young girl participated in this investigation. Her challenging behavior consisted of tantruming in order to avoid coming leaving the play yard.</p>	<p><u>Dependent Variable:</u> The number of times the child entered the classroom from the play yard in the absence of tantruming behavior. <u>Independent Variable:</u> Use of a preferred item as a distractor</p>	<p>The child's compliance to the request go back to the classroom increased as her tantruming behavior decreased.</p>
<p>7. Examining the use of a combination of choice making and preferred item as a distractor.</p>	<p>A four year-old child with expressive and receptive communication delays participated in this investigation.</p>	<p><u>Dependent Variable:</u> Engagement in the challenging behavior and the number of times the child went form a circle time activity to a teacher directed activity. <u>Independent Variable:</u> The intervention procedure consisted of providing the child with a choice among instructional activities. The activities were represented via tangible objects which also functioned as a preferred item as a distractor.</p>	<p>The use of choice making and preferred item as a distractor resulted in the elimination of the challenging behavior and compliance to go to the instructional center on 100% of the opportunities provided.</p>

Table 4. Evaluation activities and outcomes.

EVALUATION ACTIVITIES	ANOKA/HENNEPIN PUBLIC SCHOOLS	NORTH ST. PAUL PUBLIC SCHOOLS	CHISAGO-PINE COUNTY EDUCATIONAL COOPERATIVE
Evaluation of course offered in districts <ul style="list-style-type: none"> <li>• First Offering Pre and post test performance Evaluations</li> <li>• Second Offering Pre and post test performance Evaluations</li> </ul>	M	Pre-test Mean = 38.5% Post-test Mean = 85%  Pre-test Mean = 53% Post-test Mean = 88%	Pre-test Mean = 45% Post-test Mean = 92%
Evaluation of University training of T.A. team members	Scale: 1 = Strongly Agree 4 = Strongly Disagree  X = 3.6    Valuable information provided X = 3.4    Training presented clearly X = 3.75    An interdisciplinary model was stressed	Scale: 1 = Strongly Agree 4 = Strongly Disagree  X = 4.0    Valuable information provided X = 3.5    Training presented clearly X = 3.4    An interdisciplinary model was stressed	Qualitative information was collected regarding university training: 1. Team members felt that the training prepared them, but felt that some of the topics did not apply to their circumstances (i.e., a rural setting).  2. Aspect of training that team members felt was unnecessary was the amount of forms with which they needed to become acquainted.  3. Ongoing support from University personnel provided insight into a number of different interventions, personnel were approachable,



<p>Evaluation of T. A. team's delivery of on-site technical assistance</p>	<p>Scale: 1 = Strongly Agree 4 = Strongly Disagree</p> <p>X = 3.2 Programs suggested by team were successful</p> <p>X = 3.3 Team provided ongoing technical assistance</p> <p>X = 3.2 The intervention implemented was beneficial to the child</p>	<p>Scale: 1 = Strongly Agree 4 = Strongly Disagree</p> <p>X = 3.2 Programs suggested by team were successful</p> <p>X = 3.6 Team provided ongoing technical assistance</p> <p>X = 3.3 The intervention implemented was beneficial to the child</p>	
<p>Evaluation of T. A. team's workshop activities</p>		<p>Scale: 1 = Strongly Agree 7 = Strongly Disagree</p> <p>X = 5.1 Learned a great deal from workshop</p> <p>X = 5.8 Information presented can be applied to students with whom I work</p>	

Table 5. Number of individuals impacted through the technical assistance project.

INDIVIDUALS SERVED AND ACTIVITIES	ANOKA/HENNEPIN PUBLIC SCHOOLS (3 years)	NORTH ST. PAUL PUBLIC SCHOOLS (2 years)	CHISAGO-PINE COUNTY EDUCATIONAL COOPERATIVE (1 year)
Number of children served via technical assistance	34	19	5
Number of staff served via technical assistance	30	18	8
Number of courses offered in district	-	2 course offerings (25 participants total)	2 course offerings (2 participants total)
Number of workshops	3 (42 participants total)	9 (37 participants total)	-
Summer Institute	1992 - 125 participants	1993 - 135 participants	1994 - 238 participants

APPENDIX I  
Course Syllabus

## EPSY 5900: Proactive Approaches to Managing Challenging Behaviors in Young Children

**Meeting Time / Place :** Staff Development Center  
Feb 3-10 Sherwood Cleveland West  
Feb 17- March 31 George Petty Room  
Weds. from 3:45 pm to 5:45 pm  
(Note: there will be no class on Feb. 24 due to IEP's)

**Instructors:**

Susan Johnston, MA, SLP-CCC  
Doctoral Candidate, Communication Disorders  
Phone: 624-2380

Kathleen Feeley , MS  
Doctoral Candidate, Educational Psychology  
Phone: 624-2380

**Purpose of the Course:** The purpose of this course is to discuss positive treatment alternatives for individuals who engage in challenging behavior. A large segment of the course will address; a) intervention strategies aimed at replacing challenging behavior with communicative alternatives, and b) organizing classrooms to decrease the probability of the occurrence of challenging behaviors while at the same time facilitating social interactions.

**Format of the Course:** Each week, approximately 60 minutes will be devoted to the presentation of assessment and intervention strategies. The remaining 45 minutes will be spent actively applying the information in group activities.

**Course Objectives:**

1. To familiarize students with the range of assessment strategies that may be used to determine the function of challenging behavior
2. To familiarize students with the range of positive treatment strategies for individuals who engage in challenging behavior (e.g. behavioral momentum, communicative replacement, environmental rearrangement)
3. To familiarize students with ways to modify treatment strategies for individuals who have severe communication deficits.

**Student Responsibilities in this Course:**

Required Readings: Readings will be assigned relative to each topic. You should complete the readings prior to the class session in which they will be discussed. The text (Durand, 1990) is available at the University of Minnesota Bookstore (Williamson Hall). All additional readings will be distributed in class.

Functional Assessment: Students will be required to complete a functional assessment of problem behaviors and summarize the results of this assessment. Interview, Direct Observation, and Summary forms will be provided.

Intervention Plan: An intervention plan based on the results of the functional assessment of problem behaviors will be developed. This plan will draw from the intervention methods presented in class. Forms for completing the intervention plan will be provided.

**Grades:** Each assignment is worth a total of ten points. Ten points will be awarded if the assignment is satisfactorily completed and handed in on time.

**Assigned Readings:**

Durand, V.M. (1990). Severe behavior problems: A functional communication training approach. New York, NY: The Guilford Press.

Excerpts from O'Neill, R.E., Horner, R.H., Albin, R.W., Storey, K., & Sprague, J. (1990). Functional analysis: A practical assessment guide. Sycamore, Ill: Sycamore Publishing.

Excerpts from McEvoy, M. (ED.) (1990). Organizing caregiving environments for young children with handicaps. Education and Treatment of Young Children 13(4).

Reichle, J. & Johnston, S. (in press). Replacing challenging behavior: The role of communication intervention. Topics in Language Disorders.

Excerpts from Reichle, J. et. al. (in prep). Intervention Module. Developing and Evaluating a Model of Inservice and Technical Assistance to Prevent Challenging Behavior in Preschoolers (Grant # H024P10017)

**Outline of Topics to be Addressed in this Course:**

<u>Week</u>	<u>Date</u>	<u>Course Outline</u>
1	2/3	<p>-<b>Topic:</b> Introduction</p> <ol style="list-style-type: none"><li>1. Pre-Test</li><li>2. Overview of the Course</li><li>3. Socially Motivated and Non-Socially Motivated Challenging Behavior</li><li>4. Relationship Between Communication and Challenging Behavior</li><li>5. Communicative Functions of Challenging Behavior</li></ol> <p>-<b>Activity:</b> Group discussion of video tape examples</p> <p>-<b>Assigned Reading:</b> Reichle, J. &amp; Johnston, S. (in press)</p> <p>-<b>Instructor:</b> Johnston &amp; Feeley</p>
2	2/10	<p>-<b>Topic:</b> Functional Assessment of Challenging Behavior</p> <ol style="list-style-type: none"><li>1. Purpose of Assessment</li><li>2. Functional Assessment Strategies</li><li>3. Relative Strengths and Weaknesses of Specific Strategies</li></ol> <p>-<b>Activity:</b> Collecting and summarizing information from direct observations</p> <p>-<b>Assignment:</b> Assessment of Student (Due Week 4)</p> <p>-<b>Assigned Reading:</b> Chapter 3</p> <p>-<b>Instructor:</b> Johnston</p>
3	2/17	<p>-<b>Topic:</b></p> <p>-Functional Assessment of Challenging Behavior (cont.)</p> <p>-Modifications to intervention strategies for individuals who have severe communication deficits</p> <p>-<b>Activity:</b> Collecting and summarizing information from direct observations</p> <p>-<b>Assigned Reading:</b> Chapter 3</p> <p>-<b>Instructor:</b> Johnston</p>

- 4      3/3      **-Topic:**  
**-Intervention Strategies**  
         1. Schedules  
         2. Prespecify the Reinforcer  
         3. Choice Making  
         4. Preferred Item as a Distractor  
**-Activity:** Small group brainstorming  
**-Assignment:** Assessment of Student due at beginning of class  
**-Assigned Reading:** Chapter 1 and Chapter 2 and Schedule Module  
**-Instructors:** Feeley
- 5      3/10      **-Topic:**  
**-Intervention Strategies (cont.)**  
         1. Requesting  
         2. Rejecting  
**-Response Efficiency**  
**-Activity:** Small group brainstorming  
**-Assignment:** Intervention Program for Student (Due Week 7)  
**-Assigned Reading:** Chapter 4 and Chapter 5  
**-Instructor:** Johnston
- 6      3/17      **-Topic:** Intervention Strategies (cont.)  
         1. Safety Signal (to escape)  
         2. Safety Signal (to obtain)  
         3. Behavioral Momentum  
         4. Consequence Variables  
**-Activity:** Students will be given an intervention program and data and will be asked to troubleshoot the intervention program.  
**-Assigned Reading:** Modules  
**-Instructor:** Johnston
- 7      3/24      **-Topic:**  
**-Environmental Rearrangement**  
         1. Rationale for Rearranging the Environment  
         2. Classroom Arrangement  
         3. Selecting and Arranging Materials  
**-Social Interaction**  
         1. Assessing Social Interaction  
         2. Promoting Social Interaction  
**-Activity:** Environmental Rearrangement and Social Interaction  
**-Assignment:** Intervention Program for student due at beginning of class  
**-Assigned Reading:** McEvoy, M. (1990)  
**-Instructor:** Johnston and Feeley
- 8      3/31      **Topic:**  
**-Prompting Strategies**  
**-Data Collection**  
**-Post Test**  
**-Course Evaluations**  
**-Activity:** Bringing it all Together  
**-Assigned Reading:** None  
**-Instructor:** Susan Johnston

APPENDIX II  
Program Tracking Manual

## Program Tracking

### **I. Why is it important to carefully track each activity in the technical assistance process?**

It is important to carefully track each activity involved in the technical assistance process for the following reasons:

1. Helps to ensure that each activity will be implemented in a systematic and organized manner

The program tracking procedures take the team member who is assigned to a particular learner through the assessment and intervention activities in a step by step fashion. Adhering closely to the program tracking procedures will allow the T. A. team member to implement each of the assessment and intervention procedures in a sequential and organized manner.

2. Aids in the scheduling of activities

The team member who is assigned to the particular learner can use the program tracking procedures as a means of scheduling activities that must be completed during the intervention process. This will allow the T. A. team member to plan activities in advance which ultimately, might save valuable time. For example, noting in advance when the functional assessment activities should be initiated and completed, can help to ensure that they are performed in a timely manner. This will enable the T. A. team to begin brainstorming interventions early in the technical assistance process.

3. Enables the T. A. team to closely monitor each learner's status

The T. A. team may use the program tracking procedures to determine the point at which a learner will change status within the technical assistance process. For example, once the intervention is in place and the classroom staff are beginning to make data based decisions, they may no longer need active technical assistance from the T. A. team. Therefore, the T. A. team member assigned to that learner will begin to more indirectly "monitor" his or her progress. This would result in the T. A. team member receiving an occasional update from the members of the IEP/IFSP team. In turn, the T. A.

team member then updates the remainder of the T. A. team on a monthly basis, in place of lengthy weekly discussions.

**II. How do the T. A. team members keep track of the learner's assessment and intervention programming information?**

The T. A. team members keep track of each learner's assessment and intervention programming information through the use of the Program Tracking Form (Form 1). This sample form is divided into four "phases". The T. A. team members may use these phases to identify a time line to which they should adhere while providing each learner technical assistance. This will help to ensure that each of the activities are completed in a timely fashion.

As the T. A. members become familiar with each of the activities involved in the technical assistance process, they should begin to revise the "Program Tracking Form". It is advised that the team members assign tentative time periods to each of the four phases, depending on how their T. A. team plans to operate. For example, each phase may be designated as a "Week" (e.g., Week 1, Week 2, etc.), in which each of the steps within that phase should be completed. This will provide the team members with a form that was created in order to fit the particular needs of their school district.

**III. How are the T. A. team members introduced to the Program Tracking procedures?**

Before the technical assistance team begins to take referrals from IEP/IFSP teams within the district, they will receive a series of training sessions (See the Overview section of this module). A number of these training sessions should be reserved specifically for the program tracking procedures. During the program tracking procedures training sessions, the project staff will be working with the T. A. team members to delineate step by step procedures for each activity to be conducted within the technical assistance process. For each activity, the T. A. team must:

- Step 1      Develop a definition
  
- Step 2      Develop step by step procedures
  
- Step 3      Delineate the point in the technical assistance process that the activity should be implemented

The following section of this module delineates each activity within the technical assistance process. The activities are presented in the order that corresponds to the Program Tracking Form (Form 1). A definition will be provided for each activity, as well as procedural guidelines for each activity. In addition, when appropriate, a brief rationale will be presented addressing why the activity is initiated at a given point in the technical assistance process.

#### IV. Program Tracking Procedures

##### A. PHASE I LEARNER INFORMATION

##### 1. Operating Procedures

##### Step 1    Obtain referral/request for technical assistance

- a. What is a referral/request for technical assistance and what is the purpose of this process?

The referral/request for technical assistance is a form to be filled out by district staff in order to indicate to the Technical Assistance team that they are interested in utilizing the team's services. Some districts may choose to refer to this form and process as a referral process. Implying that the learner him/herself is being referred for services. Other districts, may choose to refer to this form and process a "request for technical assistance". Referring to the process in this manner indicates that the request is being made by the interventionist in order

to allow him or her to become better skilled at implementing positive approaches to managing challenging behavior.

Establishing a referral/request for technical assistance process allows the T. A. team to track and review requests for services in the order in which they are received. It also allows the T. A. team to obtain critical information necessary to make decisions regarding the referral (e.g. severity of problem, who should be assigned as case manager, and verify that the decision to refer was a IFSP/IEP team decision, including parent input). This process is described to staff during inservice meetings, as well as published in a brochure which is disseminated district-wide.

- b. What procedures are followed in order to implement the referral process?
- Discuss and reach consensus on the purpose for the referral form.
  - As a group, the T. A. team should brainstorm a list and discuss areas of information needed on the referral form. Other district referral forms should be reviewed at this time as well for use as a possible model. Information that may be considered by the T. A. team members includes:
    - ∞ T.A. recipient (staff person requesting the assistance) information: name, phone number, school/center.
    - ∞ Child information: name, birthdate, parent's name, time/days in program.
    - ∞ Special medical condition, medications, etc.
    - ∞ Behavior(s) of concern, including a description of the behavior(s), how often they occur, how long the behavior(s) last, where and when the behavior(s) occur.
    - ∞ Child's strengths
    - ∞ Child's communication skills

- ∞ Interventions tried previously, as well as the outcome of those interventions
  - ∞ Child's likes and dislikes
- 
- Assign two team members to create a draft of the referral form.
  - At the next meeting, the T. A. team reviews the draft, makes any changes or edits, and as a team agree on the forms.
  - District administrator reviews the forms.
  - Final draft is created, reproduced and distributed throughout the district.

A sample Request for Technical Assistance Form [Form 2] is provided. Step by step procedures for the referral/request for assistance process have also been provided and are delineated on the Request for Technical Assistance Process Form [Form 2a].

### Step 2 Assign case manager

- a. What is a case manager and what is the purpose of assigning a case manager to each learner who is referred to the team?

Each learner who is referred to the T.A. team is assigned a case manager. The case manager is the member of the technical assistance team who is directly responsible for providing technical assistance to members of the learner's IEP/IFSP team. The case manager:

- conducts functional assessments
- summarizes assessment data
- leads team a discussion focused on designing interventions

The case manager is assigned so that there is a single contact person for each learner who is referred to the T. A. team. If a single IEP/IFSP team

refers more than one learner, it is possible to have more than one T.A. team member providing technical assistance to that IEP/IFSP team.

b. What procedures are followed in order to assign a case manager?

Once a learner is referred to the team, the team members decide who will be that learner's case manager. The following are issues/concerns that the team must consider in deciding which T. A. team member will act as case manager for the referred learner:

- i. Which team member is the most familiar with the service delivery model of the learner? For example, which T. A. team members are presently working in the learner's school or day care program?
- ii. Which team members are in close proximity to the learner, thereby maximizing opportunity for contact? For example, which T. A. team members are working in schools or day care programs that are in close proximity to the learner's school or program?
- iii. Which of the T. A. team members are available? For example, is there one member who has a number of learners who are only being monitored (i.e., intervention is in place and T. A. team member is monitoring learner progress)? If so, s/he may have more time available to accept a new learner.
- iv. On rare occasions, a learner may be referred who has specific disabilities that might be best addressed by a specific discipline. For example, a learner may have severe physical disabilities that might require special attention from the T. A. team's occupational therapist. On these occasions, the T. A. team may consider these specific needs while assigning a case manager. However, it is recommended that this be viewed as an exceptional case, and that the T. A. team members typically adhere to a interdisciplinary model.

- c. Why is the assignment of a case manager at the beginning of the technical assistance process?

It is important to assign a case manager at this point in the program so that a rapport can quickly be established between the T.A. team and members of the learner's IEP/IFSP team. It is advised that the same T. A. team member remain as the learner's case manager for the entire technical assistance process, except in the event of unavoidable circumstances (e.g., conflict of personalities or student/staff placement changes).

### Step 3 Obtain video release

- a. What are video and district releases?

The Video permission Form (Form 3) is a form that is signed by the learner's parent or guardian in order to for the T. A. team members to acquire permission to video tape the learner. The videotapes are used to assist in functional assessment and in the monitoring of program implementation, and may also be used for inservice training conducted by the T. A. team.

- b. Why are video releases important to obtain?

Obtaining vide releases ensures that the T. A. team members will be able to use the video taped products for assessment purposes, as well as for inservice training, in the absence of objections from parents or guardians.

- c. What procedures are followed in order to develop and acquire video and district releases?

- Discuss and reach consensus on the purpose for the video permission form.
- As a group, the T. A. team should brainstorm a list and discuss areas of information needed on the referral form. Other district

video permission forms may be reviewed at this time as well for use as a model and to maintain consistency within the district

- Assign two team members to create a draft of the video permission form.
- At the next meeting, the T. A. team reviews the draft, makes appropriate changes and edits, and the T.A. Team agrees on the form.
- District administrator reviews the forms.
- Final draft is created, and reproduced for use in the district.

## 2. Functional Assessment

### Step 4 Functional Assessment Interview Process

- a. What is a functional assessment interview and what is its purpose?

The functional assessment interview is a series of questions asked of the members of the learner's IEP/IFSP team. The interview process consists of two parts, a written questionnaire and a an in-person meeting between the case manager and members of the IEP/IFSP team.

The functional assessment interview plays an essential part in identifying the function of a learner's challenging behavior. It provides the T. A. team members with a means of identifying variables (events/activities) that are likely to effect the learner's challenging behaviors. Because it is essential to identify the function of a learner's challenging behavior early in the technical assistance process, the functional assessment interview should occur shortly after the case manager has been assigned. This will enable the case manager to identify the variables that should be observed during the direct observation (See Step 6). In addition to providing valuable

information that aids in hypothesizing the function of the behavior, the interview process also provides information that is pertinent for designing interventions.

- b. How can the format of the delivery of the interview be changed to meet the interventionist's needs?

Depending on the sophistication of the interventionist, there are two options for conducting the interview:

- Once the T. A. team assigns a case manager, s/he contacts member(s) of the IEP/IFSP team to schedule a time to meet regarding the functional assessment interview. At this point, the case manager also informs the members of the IEP/IFSP team that she or he will be sending them (or may give to them in person), a copy of the written functional assessment interview, along with a complete set of directions. The IEP/IFSP members are then instructed to complete the interview form and bring it with them to the in-person functional assessment interview.
  - If the interviewee does not have experience with the interview form and process, the T. A. team member should set up a time to meet with the interviewee to conduct the interview in person.
- c. How is the information from the functional assessment interview process used by the members of the T. A. team?

The information from the functional assessment interview process is used by the members of the T. A. team in order to identify the variables to be more closely examined through direct observation (See step 6). Additionally, the information is used in the design and implementation of positive intervention strategies.

[Note: See the Functional Assessment Module for additional information concerning the functional assessment interview process.]

Step 5 Conduct a direct observation

- a. What is a direct observation and what is the purpose of conducting a direct observation?

Conducting a direct observation consists of the case manager visiting and observing the learner during a typical school day. The case manager uses the information derived from the functional assessment interview to identify the variables that will be observed during the visit. These variables are documented on the direct observation form (See form 4). Using the direct observation form also provides the T. A. team members with a means of validating information gathered during the interview process. For example, which settings or stimuli seem to be related to the learner's challenging behavior(s). Use of the direct observation form enables the T. A. team members to gather the following information:

- a frequency count/duration analysis of the behaviors
- information on the times of day and the setting/situations in which the behaviors *are* and *are not* occurring
- the hypothesized function of the challenging behavior
- a record of the consequences being provided for the behaviors

- b. What procedures are followed in order to conduct the direct observation?

At the conclusion of the functional assessment interview the case manager should schedule a day (or days) where the case manager can spend a significant amount of time in the learner's classroom. The teacher and staff should be instructed to proceed as normal, as if the case manager was not present.

[Note: See the Functional Assessment Module for additional information concerning the functional assessment direct observation.]

Step 6 Complete the Assessment Summary Form

a. What is the Assessment Summary Form?

The Assessment summary Form (See form #5) was designed to enable the case manager to summarize all of the information derived from the functional assessment interview and direct observation.

b. What is the purpose of the Assessment Summary Form?

The information derived from the functional assessment process (interview and direct observation) can sometimes be quite complex to analyze. The following examples illustrate potential quandaries one might expect when conducting a direct observation.

- The learner may engage in a number of challenging behaviors, each appearing to serve a number of different functions. For example, the learner may yell and hit others when s/he desires access to preferred activities and when s/he desires to terminate a nonpreferred activity.
- One behavior may occur only when certain combinations of antecedents and/or consequences occur. For example, given a demand plus a verbal reprimand upon noncompliance, a learner may engage in hitting others.

The purpose of the Assessment Summary is to cohesively organize the information obtained from the assessment process. Form #5b is an example of a completed Assessment Summary Form.

c. What procedures are followed in order to complete the assessment summary form?

The case manager should gather all of the information derived from the interview and direct observation process. The case manager

should use the directions provided on Form 5a in order to complete the Assessment Summary Form.

- d. Why is the Assessment Summary Form completed at this point in the technical assistance process?

The Assessment Summary Form should be completed shortly after the direct observation takes place. This will enable the case manager to summarize the assessment information while it is still "fresh" in his/her mind. It is essential that the Assessment Summary Form be completed for use by the case manager when s/he presents the learner's assessment information to the T. A. team (Step 9).

## **B. PHASE II DEVELOPING AND PRESENTING INTERVENTIONS**

### **1. Case Presentation**

#### Step 7 Complete "Case Presentation Form"

- a. What is the Case Presentation Form?

The Case Presentation Form (Form 6) provides the case manager with a means of organizing the assessment information to be presented to the T. A. team. The form is divided into three sections:

#### Section A: Background Information

Relevant medical information and educational factors are summarized in this section. Additionally, preferences and staff/child ratio are indicated.

#### Section B: Description of the Challenging Behavior

Challenging behavior is described in terms of its frequency, intensity and duration. Antecedent variables/environments where the behavior is and is not likely to occur are indicated. The function(s) of the

challenging behaviors are also described, in addition to consequences that are typically provided.

### Section C: Past Interventions

Interventions that were and were not successful in the past should be summarized in this section. Consider for example, if staff reported that in the past they attempted to reinforce the learner for appropriate behavior. This information would be summarized in section "C". It is important that past interventions be described as clearly as possible. Additionally, it is important to attempt to determine how consistently the program was implemented along with the outcome.

- b. What procedures are followed in order to complete the Case Presentation Form?

The case manager should refer to directions provided on Form #6a in order to complete the Case Presentation form.

### Step 8 Present Case Presentation Form

The Case Presentation form is so that the other members of the T. A. team acquire important information regarding the learner in an organized manner. The T. A. team members can refer to this form during the intervention brainstorming session (Step 10).

The following procedures are used by the case manager in order to present the Case Presentation Form to the T. A. team.

- Make multiple copies of the completed case presentation form
- Distribute a copy of the Case Presentation Form to each member of the T. A. team

- Discuss each section of the Case Presentation Form with the team. Be sure to highlight important points, and provide opportunities for questions.

## 2. Intervention Brainstorming Session

### Step 9 Work through decision making protocol.

- a. What is the decision making protocol and why is it important to use during the brainstorming session?

The decision making procedure entails working through a three step process in order to facilitate decision making by the members of the T. A. team. The three key steps include:

- Defining the Problem
- Exploring Alternatives
- Selecting Potential Intervention Strategies

The decision making protocol procedures are conducted during the brainstorming session in order to provide the T. A. team members with an organized method for brainstorming intervention ideas. It enables the team to carefully define the problem(s) at hand, to brainstorm solutions to the problem(s) and finally to systematically select a number of potential intervention strategies.

- b. What procedures are followed in order to implement the decision making protocol?
  - Each member of the team should have a blank decision making protocol (See Overhead #3 located in the Teaming section of this module)

- Using a large chalk or poster board, the three steps in the decision making protocol should be displayed so that all of the T. A. team members can see the display.
- The team assigns a note-taker to write ideas on the large display
- The team works through each of the steps sequentially, being sure not to get ahead of themselves by starting to address later steps before the opportunity arises. As each idea and concern is brought up by the team, the note-taker writes it in its corresponding section of the large display (e.g., chalkboard or poster board). At the same time, each team member takes notes on his/her personal copy of the decision making protocol. The following outline depicts what is typically addressed in each of the three steps:

#### Defining the Problem

- a. Each of the challenging behaviors exhibited by the learner is identified.
- b. The hypothesized functions of each behavior is noted.
- c. Variables and/or environments that are predictive of the learner's engagement in challenging behaviors are identified. For example, each time the learner is requested to perform a task, s/he engages in tantrumming behavior.
- d. Consequences maintaining the challenging behavior should also be presented. For example, it is important to document if staff typically "time-out" a learner who is believed to be escape motivated.
- e. Specific concerns of staff or family members interacting with the learner might be raised. For example, the learner engages in challenging behavior when brought to gym, but

the class must be brought to the gym each day, due to scheduling constraints.

### Exploring Alternatives

During this step, the T. A. team members brainstorm proactive intervention strategies. It is quite likely that any given member of a challenging repertoire may be addressed with a variety of proactive intervention strategies. Consequently, each potential intervention strategy can be suggested that specifically address the perceived function(s) of the behavior(s).

### Selecting Potential Intervention Strategies

- a. Referring to the list of possible solutions generated while working through the Exploring Alternatives step, the T. A. team begins to narrow down the choices by ruling out those interventions that do not appear to be feasible or do not appear to have the potential for success.
- b. Once the choices have been narrowed down, the T. A. team must decide whether or not the interventions that remain appear to be feasible. If feasible, the T. A. team will troubleshoot each of the selected interventions in order to conclude which ones will be suggested to the learner's IEP/IFSP team. It is important that each team member play an integral part in this process. Each should draw upon their area of expertise, in addition to their past experiences with learners who engage in challenging behaviors.
- c. If the remaining interventions do not appear to be feasible, the team should spend additional time brainstorming possible solutions.

- d. Why does the team decide on possible interventions at this point in the technical assistance process?

It is important for the T. A. team to spend a considerable amount of time analyzing interventions before they are presented to the IEP/IFSP team in order to avoid the implementation of a program that is not highly likely to be successful. Because the T. A. team is well versed in this area, and because they have gathered a substantial amount of information about the learner, they should be able to predict potential problems when using an intervention with that particular learner. It is important that these potential problems be identified early on in the technical assistance process in order to save valuable time and resources. Additionally, the T. A. team members should consider the instructional style of members of the IEP/IFSP team. One strategy may be to tentatively rank the interventions based on their hypothesized efficiency and compatibility with the interaction styles of those who spend significant time in the learner's environment (e.g., members of the learner's IEP/IFSP team).

- e. What are specific instructional styles that should be considered by the T. A. team members?

Fig. 1 delineates a number of instructional styles in which interventionists choose to practice. It is important to note that interventionists may pick and choose among these styles and may not always adhere to one in particular. For example, a teacher may choose to teach art and music in a large group format, but prefer to work with individual students when teaching academic skills. A speech therapist may prefer to teach some skills through naturalistic teaching procedures (e.g., requesting) and other skills by

providing discrete teaching opportunities (e.g., articulation skills).

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Insert Fig. 1 about here

Step 10 Brainstorm Strategies for Monitoring Student Progress

- a. What are monitoring strategies and why are they important to the technical assistance process?

[TO BE EXCERPTED FROM THE "MONITORING STUDENT PROGRESS" SECTION OF THIS MODULE]

- b. What procedures are followed in order to brainstorm strategies to monitor student progress?

[TO BE DEVELOPED]

Step 11 Complete Brainstorming Summary Form

- a. What is the Brainstorming Summary Form and what purpose does it serve?

The Brainstorming Summary Form (Form 8) provides the case manager with a way to carefully document the results of the T. A. team's brainstorming session. The primary purpose of completing the Brainstorming Summary Form is that it will provide the case manager with carefully documented information acquired as a result of the brainstorming session. It is important to complete the Brainstorming Summary Form at this point in the technical assistance process, so that the information documented can be used in the future. This information may be valuable for the T. A. team, in the event that the chosen intervention is not successful. The T. A. team members can then refer to the Brainstorming Summary Form to determine what other interventions were previously suggested.

- b. What procedures are followed in order to complete the Brainstorming Summary Form?

The case manager should refer to the directions provided on Form 8a in order to complete the Brainstorming Summary Form.

### 3. Intervention Presentation

#### Step 12 Present potential interventions to IEP/IFSP team

- a. What is the purpose of presenting the potential interventions to the IEP/IFSP team?

Upon terminating the intervention brainstorming session, the T. A. team should have at least several potential interventions that they feel would appropriately address the challenging behavior(s) of the learner. It is important to present the potential options to the IEP/IFSP team so that they can decide what interventions they would feel most comfortable implementing and would be most effective. Members of the IEP/IFSP will be the individuals who are actually implementing the intervention, therefore it is of utmost importance that they make the decision regarding which intervention or interventions are implemented.

- b. What procedures are followed in order to present the potential interventions to the IEP/IFSP team?

The following procedures are used by the case manager in order to present the possible interventions to the IEP/IFSP team:

- The case manager schedules a meeting with the members of the learner's IEP/IFSP team (including the learner's parents).

- Each potential intervention is then presented to the IEP/IFSP team. The case manager uses the following outline in order to present the pertinent information regarding each intervention:
  - the name of the intervention
  - the purpose of the intervention
  - skills the learner will acquire as a result of the intervention
  - a description of what is involved when implementing the intervention (from the perspective of the IEP/IFSP team members).
  - strategies for monitoring learner progress

The T. A. team member is available to explain how the interventions would need to be implemented and answer any questions that arise. However, the T. A. team member should not attempt to influence the IEP/IFSP team's decision.

- c. Why are the potential interventions presented to the members of the IEP/IFSP team at this point in the technical assistance process?

The potential interventions are presented to the the members of the IEP/IFSP team at this point in the technical assistance process so that the members are able to make the final decision regarding the intervention. It is of utmost importance that the members of the IEP/IFSP team make this decision before any other technical assistance occurs. This way, the members of the IEP/IFSP team will acquire significant ownership over the intervention strategy that is selected for implementation.

#### 4. Delineate Intervention Plan and Program Monitoring Procedures

##### Step 13 Complete Behavior Intervention Plan Form

- a. What is the Behavior Intervention Plan form?

The Behavior Intervention Plan Form (Form #9) clearly defines each of the steps involved in the proactive intervention program, including procedures to be conducted in order to monitor student progress.

- b. What is the purpose of completing the Behavior Intervention Plan Form?

Completing the Behavior Intervention Plan Form enables the case manager to carefully document the challenging behaviors that are to be decreased, adaptive behaviors that are targeted to increase, and the procedural steps involved in both the intervention and monitoring process. Before the intervention plan is implemented, it is important that each of the procedures involved are carefully delineated. This will allow all of the individuals involved in the technical assistance process to have access to the intervention and monitoring procedures. Therefore, questions that arise can be addressed before the intervention is actually implemented. The Completed Behavior Intervention Plan form can be utilized by a number of individuals involved in the technical assistance process. For example:

- Members of the IEP/IFSP team can refer to the Behavior Intervention Plan Form in order to clarify procedures involved in the intervention
- Over time, a compendium of examples of successful intervention strategies can be compiled for future reference by the T. A. team

- c. What procedures are followed in order to complete the Intervention Plan Form?

The case manager should refer to directions provided on Form #9a [TO BE DEVELOPED] in order to complete the Behavior Intervention Plan Form.

## C. PHASE III MONITORING PROCEDURES

### 1. Presentation of Intervention Procedures

#### Step 14 Present intervention and monitoring procedures to the T. A. recipient(s)

Before intervention begins, it is important to present the intervention and monitoring procedures to the T. A. recipient(s) in an organized fashion. While the T. A. team member presents the procedures the T. A. recipient(s) should be encouraged to ask questions and voice his/her concerns. The primary purpose of this presentation is for the T. A. recipient(s) to gain a working knowledge of the intervention(s) being presented, in addition to becoming familiar with progress monitoring activities. This will enable the T. A. recipient(s) to document the progress made by the learner during the entire intervention process.

What procedures are followed in order to present the intervention and monitoring procedures to the T.A. recipients?

The following outline is used by the case manager to present the intervention to the T. A. recipient(s).

[TO BE DEVELOPED]

Step 15 Determine criteria for success of program and develop a time-line

- a. What is purpose of determining criteria for success of the program and developing a time-line?

It is important to establish goals, towards which the T. A. team members and the T. A. recipient(s) can work together to achieve. Determining criteria for success of the program provides both parties with a vision of what is to be expected as a result of the technical assistance process. If this criteria is not met, it is indicative that troubleshoots are required in order to decrease the learner's challenging behaviors. If the criterion is met, all parties can make the decision to terminate the technical assistance process. Developing a time-line will help to identify the points in the intervention process where the intervention should be closely examined.

- b. What procedures are followed in order to determine the success of the program and develop a time line?

[TO BE CREATED]

**D. PHASE IV ONGOING MONITORING AND EVALUATION PROCEDURES**

**1. Ongoing Monitoring of Intervention**

Step 16 Present data on interventionist participation

[To be developed]

Step 17 Present data on learner progress to team at least monthly

- a. What is the purpose of presenting data on learner progress to the team?

It is important for the case manager to regularly present objective information on learner progress so that the entire T. A. team can be kept abreast of the learner's intervention program. If the intervention is not going as planned, the T. A. team members can utilize this time to brainstorm potential troubleshoots.

- b. What procedures are followed in order to present data on student progress to the team?

[TO BE CREATED]

Step 18 Identify problems to troubleshoot if data does not reflect successful intervention

- a. Ensure that the intervention is being consistently conducted and if so whether or not it is being conducted in a reliable manner.

In order to determine the cause of problems that may arise during intervention, it is important to determine whether or not the intervention is being consistently implemented by the interventionist. If implemented in a consistent manner, it must also be determined whether or not the intervention is being implemented in a reliable manner. For example, are all of the steps of the intervention being implemented? Are the intervention steps being implemented in the correct order?

- b. Re-present menu options to the T. A. Recipient(s)

If the intervention is progressing smoothly, it can be assumed that the level of technical assistance being provided is adequately meeting

the needs of both the student and the T. A. recipient. If the intervention is not progressing smoothly this would be an appropriate time to offer the T. A. recipient alternative options (e.g., changing levels of technical assistance). The level of technical assistance that the T. A. recipient requested at the onset of an intervention program, may not be intensive enough to ensure the successful implementation of the intervention. Re-presenting the levels of technical assistance, provides the T. A. recipient with an opportunity to increase the amount of technical assistance s/he receives from the T. A. team.

- What procedures are followed in order to represent menu options to the T.A. recipient(s)?

[TO BE DEVELOPED]

Step 19 Repeat steps 12-20 on a separate program tracking form when an intervention is expanded upon and/or when a new intervention is designed and implemented

## **2. Collect Evaluative Information from T. A. recipient**

Step 20 Provide the T. A. Recipient(s) with the Technical Assistance Feedback form

- a. What is the Technical Assistance Feedback form?

The Technical Assistance Feedback Form (Form 10) is used by the T. A. team to acquire feedback from the T. A. recipient regarding their satisfaction with the technical assistance process.

- b. What is the purpose of providing the T. A. recipient with the Technical Assistance Feedback form?

Once completed, the Technical Assistance Feedback form can be used by the T. A. team to monitor how the recipients of the technical assistance view the technical assistance process. For example, the

completed forms may indicate that the T. A. recipients would prefer more "hand on" workshops, where the T. A. team models the intervention with the learner present. On the other hand, some T.A. recipients may indicate that they would prefer less in-person training and more reading materials. The T. A. team members can then use this information to adjust how they provide technical assistance in the future.

[CONSIDERING MOVING THIS STEP UP IN THE PROGRAM TRACKING FORM, IN ORDER TO GET FEEDBACK FROM THE T.A. RECIPIENT BEFORE THE FINAL STAGES OF THE PROGRAM]

**V. How do the T. A. team members organize and store the program tracking materials?**

Before the T. A. team members begin to take referrals, a number of student files should be created. This entails obtaining a number of full sets of blank forms, and placing each set in its own binder. The forms should be placed in the binder in the exact order in which the corresponding activities will occur. When a case manager is assigned to a particular learner, s/he should label the binder with the learner's name. This binder then becomes the learner's "technical assistance file". As the case manager participates in each of the program tracking activities, the forms remain neatly stored in the learner's file. When not in use, files should be stored in a designated location within the school district.

Form #1

Program Tracking Form

Student Name: \_\_\_\_\_  
Case Manager: \_\_\_\_\_

Date(s) Completed

PHASE I LEARNER INFORMATION

Operating Procedures

- 1) Obtain referral/request for technical assistance \_\_\_\_\_
- 2) Assign case manager \_\_\_\_\_
- 3) Obtain video release \_\_\_\_\_

Functional Assessment

- 4) Functional Assessment Interview Process \_\_\_\_\_
- 5) Conduct a direct observation \_\_\_\_\_
- 6) Complete the Assessment Summary Form \_\_\_\_\_

PHASE II DEVELOPING AND PRESENTING INTERVENTIONS

Case Presentation

- 7) Complete "Case Presentation Form" \_\_\_\_\_
- 8) Present Case Presentation Form \_\_\_\_\_
- 9) Work through decision making protocol \_\_\_\_\_
- 10) Brainstorm Strategies for Monitoring Student Progress \_\_\_\_\_
- 11) Complete Brainstorming Summary Form \_\_\_\_\_

Intervention Presentation

- 12) Present potential interventions to IEP/IFSP team \_\_\_\_\_

Delineate Intervention and Program Monitoring Procedures

- 13) Complete Behavior Intervention Plan form \_\_\_\_\_

**PHASE III MONITORING PROCEDURES**

**Presentation of Intervention Procedures**

- 14) Present intervention and monitoring procedures to the T. A. recipient(s) \_\_\_\_\_
- 15) Determine criteria for success of program and develop a time-line. \_\_\_\_\_

**PHASE IV ONGOING PROGRAM MONITORING AND EVALUATION**

**PROCEDURES**

**Ongoing Monitoring of Intervention**

- 16) Present data on interventionist participation \_\_\_\_\_
- 17) Present data on learner progress to team at least monthly \_\_\_\_\_
- 18) Identify problems to troubleshoot if data does not reflect successful intervention \_\_\_\_\_
- 19) Repeat steps 12-20 on a separate program tracking form when an intervention is expanded upon and/or when a new intervention is designed and implemented. \_\_\_\_\_

**Collect Evaluative Information from T. A. recipient**

- 20) Provide the T. A. Recipient(s) with the Technical Assistance Feedback form \_\_\_\_\_

**POSITIVE INTERVENTION RESOURCE TEAM  
REQUEST FOR ASSISTANCE FORM**

Child's Name \_\_\_\_\_ D.O.B. \_\_\_\_\_ Age \_\_\_\_\_ Student contact time \_\_\_\_\_  
 Referred by \_\_\_\_\_ Parents notification attached \_\_\_\_\_ Date \_\_\_\_\_ School/Program \_\_\_\_\_

A. IEP Planning Team Members (include titles): \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 B. Briefly describe the student (e.g., Diagnosis, medical concerns, strengths, and weaknesses).  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

C. Describe the Behaviors.

Behavior	How often?	How long?	How severe?	Situations	
				Most likely to occur	Least likely to occur

Best time to observe student while the behavior is occurring \_\_\_\_\_

D. Describe child's means of communication (include informal ways they get the message across, size of vocabulary, use of gestures, pictures, symbols, etc.).

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E. Describe previous behavioral interventions/strategies tried and outcomes.

Behavior	Strategy	How long implemented	Outcome

F. Other information that is pertinent to the student (e.g., likes/dislikes).

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Thanks for the request!  
Please return to Diane Grasse at Harmony.

## Request for Technical Assistance Process Form

### Step 1

Request for assistance may be made to the Technical Assistance Team from the IEP team IFSP team.

Documentation accompanying a request for assistance:

- a. completed request for technical assistance form, including clear description of interventions tried, and documentation of success/failure of the intervention
- b. team informed of the submission of the request for assistance form
- c. parent informed of request for assistance
- d. contact person identified, e.g., teacher, speech pathologist
- e. Is the child currently on a program? State rule?

### Step 2

Requests for assistance are turned in to the Technical Assistance Team (in care of [insert contact persons's name and work site]).

### Step 3

Team decides:

- a. If clear cut situation or emergency situation (e.g., the child is causing severe injury to self or others) to the team accepts referral and assigns a case manager (refer to Step 5).
- b. If not clear cut situation, a team decision is made to assign case manager (refer to Step 5) to continue program tracking.
- c. If request for technical assistance does not meet criteria and seems inappropriate for the team, may refer to other resources or request additional information. The team will assign a member to follow up on the request process.

Criteria for accepting a request for technical assistance

- a. Documentation of interventions tried
- b. Parents informed of request
- c. Classroom teacher supportive of decision to refer
- d. The problem presented is appropriate, given scope/skills of the technical assistance team members

If criteria is not met:

- a. Suggest in district resources
- b. Request additional information, review decision

**Step 4**

The team contact person (insert name) notifies the individual who requested technical assistance of the status of the request, including date of meeting that the team will review the case, as well as who has been assigned as case manager.

If the team is not able to process the request for technical assistance the team contact person (Diane) will notify the individual who requested assistance of the projected date of processing.

**Step 5**

Criteria for selecting a case manager:

- a. Number of cases assigned should be evenly distributed across team members
- b. Access to referred student
- c. Profession/Discipline/Experience of team member matches problem(s) presented in referral

**Step 6**

If student is enrolled in a Special Education Program, note "Technical assistance being provided by The \_\_\_\_\_ Team" in the Adaptations and Modifications section the I.E.P..

**Step 7**

Case manager does on site interview/observations.

**Step 8**

Case manager presents case summary to team at next regularly scheduled meeting during the agenda time slot for new cases.

**Step 9**

Team members brainstorm/suggest/affirm intervention idea(s).

**Step 10**

Case manager offers technical assistance options to technical assistance recipient. Technical assistance recipient selects the option that is the most appropriate for his/her needs.

**Step 11**

Case manager assists technical assistance recipient in implementing the intervention, data collection, etc.

**Step 12**

Review status of case during update portion of regular team meeting.

VIDEOTAPE PERMISSION

I give permission for my child \_\_\_\_\_ to be videotaped during the 1992-1993 school year.

YES \_\_\_\_\_ NO \_\_\_\_\_ I give permission for the videotape to be used for assessment and instructional purposes within the program.

YES \_\_\_\_\_ NO \_\_\_\_\_ I give permission for the videotape to be used for teacher and parent training purposes within and outside the program. I understand that my child will not be identified by name. I also understand that the videotapes will not be used for commercial or media purposes.

Signature of the parent/guardian \_\_\_\_\_ Date \_\_\_\_\_



## Case Study

After completing the functional interview form (see Form 1), Timmy's case manager conducted a direct observation. Timmy was observed for 2 days, February 3 and February 4. His typical daily schedule consists of the following:

8:30 - 8:45	Get off the Bus, go to classroom and prepare for day
8:45 - 9:15	Art Activity
9:15 - 9:45	Free Play
9:45 - 10:15	Snack
10:15 - 10:45	Music
10:45 - 11:15	Gym
11:15 - 11:30	Prepare to go home

Timmy's typical behaviors include throwing materials, darting from seat, screaming and dropping to the floor.

### Direct Observation form information:

- a. On 2/3 Timmy went from the bus to his coat closet in the classroom without engaging in any challenging behaviors. He removed his coat, hat and boots and promptly placed them in the closet, without engagein in challeging behaviors.
- b. On 2/3 between 8:45 and 9:15 am, Timmy threw his art materials on the floor on three occasions. On the first two occasions, the classroom assistant, Joan, instructed Timmy to pick up the materials and directed Timmy to complete the art activity. The thrd time that Timmy threw his materials, he immediately darted from his seat. Joan then terminated the art activity. **(1-3)**
- c. On 2/3 between 9:15 and 9:45, during free play Timmy did not engage in any challenging behaviors.
- d. On 2/3 between 9:45 and 10:15, Timmy threw his empty plate and placemat onto the floor **(4)**. Joan responded by directing Timrny to pick up the plate and placemat. Timmy then darted from his seat **(5)**. Joan directed Timmy to his seat. Timmy then attempted to dart from his seat, but Joan blocked him **(6)**. Timmy then began to scream **(7)**. Joan did not respond. Timmy then dropped to the floor while screaming **(8)**. The snack period was then terminated.

- e. On 2/3 between 10:15 and 10:45 on three occasions, Timmy threw the musical instruments onto the floor **(9-11)**. Each time, his teacher Donna directed him to pick them up. Then, Timmy darted from his seat on three occasions **(12 - 14)**. Each time, Donna directed him to his seat.
- f. On 2/3 between 10:45 and 11:15 and between 11:15 and 11:30, Timmy did not engage in any challenging behaviors.
- g. On 2/4 Timmy again went from the bus to his classroom without displaying challenging behaviors.
- h. On 2/4 between 8:45 and 9:15, Timmy threw his art materials **(15)**. When Joan directed him to pick them up he began to scream and threw himself on the floor **(16)**. Joan then terminated the art activity.
- i. On 2/4 between 9:15 and 9:45 Timmy did not engage in any challenging behaviors.
- j. On 2/4 during snack, Timmy darted from his seat on two occasions **(17-18)**. Donna directed him back to his seat on the first occasion and ignored him on the second occasion.
- k. On 2/4 during music, Timmy darted from his seat on two occasions **(19-20)**. On both occasions, he was directed back to his seat, by Donna. Although he attempted to dart on three more occasions, Donna blocked each of his attempts **(21-23)**. Timmy then began to scream **(24)** and then he dropped to the floor. Donna ignored him.
- l. Timmy did not engage in any challenging behaviors for the remainder of the day **(2/4)**.



## Functional Assessment Direct Observation Summary Form

### Directions for Use:

Note: In order to complete this form, a direct observation of the learner must be conducted using the *Functional Assessment Direct Observation Form*.

- Step 1 Note the learner's name and the name of the individual who performed the direct observation ("Observer") on the corresponding lines in the right and left top corners of the form.
- Step 2 Note each of the challenging behaviors derived from the functional assessment interview and direct observation in the top of each column on the line labeled "Behavior".
- Step 3 Concentrating on only one challenging behavior at a time, work from the top to the bottom of the page, filling in the matrix, by addressing each of the factors (e.g., "Behavior Occurred", "Behavior Did Not Occur", etc.) along the left side of the page.

### **Section A: Behavior Occurred**

Referring to the Functional Assessment Direct Observation Form, calculate the number of times the behavior occurred. This information can be found in the section titled "Behaviors" on the observation form. Once you have derived at a number, begin to calculate how many times the behavior occurred given each of the antecedents noted on the direct observation form.

Example: Timmy threw his materials on a total of 8 occasions. On all 8 occasions, he was engaged in an In-seat activity. Additionally, on 5 occasions he was with Joan and on 3 occasions he was with Donna. Therefore, the following information would be noted in the first row, in the first column of the matrix:

*8/8 In-seat activity*

*5/8 With Joan*

*3/8 With Donna*

### **Section B: Behavior did not occur**

Time periods or specific activities during which the challenging behavior did not occur, should be noted in this row of the matrix.

Example: During the two days of observation, Timmy did not throw his materials during transitions, during arrival and departure activities and during freeplay and gym. The second row in the first column of the matrix should read:

- During transitions
- During arrival and departure activities
- During freeplay and gym

### Section C: Staff Perception of the Behavior

Once again the total number of times that the behavior occurred while the learner was being observed should be noted. Referring to the section of the Functional Assessment Direct Observation Form labeled Functions calculate the number of times in which the challenging behavior was attributed to each of the functions marked during the direct observation.

Example: On the 8 occasions that Timmy engaged in the challenging behavior of throwing materials, the observer noted that Timmy he did so in order to escape the activity. Given this information, the third row in the first column of the matrix should read:

8/8 *Escape activity*

### Section D: Consequences

Referring to the section of the Functional Assessment Direct Observation Form titled Actual Consequences, calculate the number of times each consequence was delivered, in response to the challenging behavior.

Example: On 7 occasions that Timmy threw his materials, he was directed to pick them up. On 1 occasion, the activity was terminated. The fourth row in the first column of the matrix should read:

7/8 *Directed to pick up materials*

1/8 *Activity terminated*

## Section E: Hypothesis

Given the information noted in the previous four sections, the individual analyzing this information, should be able to form a hypothesis regarding the circumstances under which the learner is engaging in the challenging behavior. These hypothesis can be broken down into three components, each of which is printed on the form:

### Function(s)

Note one or more potential functions of the challenging behavior (e.g., escape activity, obtain attention, etc.).

### Antecedent(s)

Note the antecedents that appear to be most predictive of the challenging behavior (e.g., task demand, transition, difficult task).

### Consequence(s)

Note the consequences that typically follow the challenging behavior (e.g., ignored, redirected, provided attention).

Example: Having engaged in material throwing 8 out of 8 times while engaged in an in-seat activity, it is hypothesized that one function of Timmy's throwing of materials is to escape the activity. Additionally, because Timmy was most often consequated with a direction to pick up the materials, the fifth row in the first column should read:

**Function(s):** *Escape activity*

**Antecedent(s):** *In-seat activity*

**Consequence(s):** *Directed to pick up materials*

## Section F: Chains of Behaviors

After each challenging behavior listed has been carefully analyzed using each of the factors listed on the left side of the form, refer to the Functional Analysis Direct Observation Form. It is important to determine if two or more challenging behaviors have

a tendency to occur within a chain. For example, a learner may engage in yelling. After this challenging behavior has been consequated (e.g., ignored, redirected), the learner begins to hit her peers. This information can be derived by examining the numbers assigned to each occurrence of a challenging behavior. If occurrences #1, #4 and #7 are yelling and occurrences #2, #5 and #8 are hit peer, this indicates that these behaviors occurred within a chain.

Example: After throwing his materials on 3 of the eight occasions, Timmy engaged in the challenging behavior of "darting from his seat". This information would be noted in the last row of the first column within the matrix and would read:

*A chain of behavior that was prevalent was "throw material" followed by "dart from seat".*

Name: Timmy Observer: KF

**Functional Assessment Direct Observation  
Summary Form**

	Behavior: <u>Throw Materials</u>	Behavior: <u>Dart from seat</u>	Behavior: <u>Scream</u>	Behavior: <u>Drop to floor</u>
<b>A</b>	8/8 In-seat activity 5/8 With Joan 3/8 With Donna	13/13 In-seat activity 3/13 With Joan 10/13 With Donna	4/4 In seat activity 3/4 With Joan 1/4 With Donna	3/3 In-seat activity 2/3 With Joan 1/3 With Donna
<b>B</b>	-During transitions -During arrival and departure activities -During freerplay and gym	-----	-----	-----
<b>C</b>	8/8 Escape activity	13/13 Escape activity	4/4 Escape activity	3/3 Escape Activity
<b>D</b>	7/8 Directed to pick up materials 1/8 Activity terminated	1/13 Activity terminated 7/13 Directed back to seat 4/13 Blocked 1/13 Ignored	2/4 Ignored 2/4 Activity terminated	1/3 Ignored 2/3 Activity terminated
<b>E</b>	Function: Escape Activity Antecedent: In seat activity Consequences: Directed to pick up materials	Function: Escape Activity Antecedent: In seat activity Consequences: Directed back to seat/Blocked	Function: Escape Activity Antecedent: In seat activity Consequences: Ignored/Activity terminated	Function: Escape Activity Antecedent: In seat activity Consequences: Ignored/Activity terminated
<b>F</b>	It appears that Timmy's behaviors become more and more intensive, until the in-seat activity is terminated or until his challenging behaviors are ignored. The chains of behavior that were prevalent were throw material - dart form seat, scream - drop to floor, dart from seat - scream - drop to floor.			

Direct Observation Summary Form

Observer: \_\_\_\_\_

Name: \_\_\_\_\_

	Behavior: _____	Behavior: _____	Behavior: _____	Behavior: _____
<b>Behavior Occurred</b>				
<b>Behavior Did Not Occur</b>				
<b>Staff Perception of Function</b>				
<b>Consequences</b>				
<b>Hypothesis</b>	Function:	Function:	Function:	Function:
	Antecedent:	Antecedent:	Antecedent:	Antecedent:
	Consequences:	Consequences:	Consequences:	Consequences:
<b>Chains of Behaviors</b>				

Name: \_\_\_\_\_

Age: \_\_\_\_\_

Program: \_\_\_\_\_

**A. Background Information**

1. Medical information relevant to the occurrence of the behavior(s)

2. Educational or skill factors

a. Expressive communication skills

b. Receptive communication skills

3. Learner preferences

a. Likes:

b. Dislikes:

4. Staff/learner ratio

5. Additional factors (e.g., Environmental arrangement)

**B. Description of the Behavior**

1. Behavior

Frequency/Intensity/Duration

2. Variables/environments where the behavior is likely to occur

3. Variables/environments where the behavior is not likely to occur

4. Functions that the behavior(s) appear to serve

5. Consequences typically provided

**C. Past Interventions and Outcomes**

Form #6a

## Case Presentation Form

Directions for use:

- Step 1      Gather all of the learner's assessment materials:
- functional assessment interview forms
  - functional assessment direct observation form
  - functional assessment summary form
- Step 2      Note the learner's name, age and educational program on the corresponding lines at the top of the form.
- Step 3      Refer to the assessment materials in order to retrieve information addressing the learner's background. **Section A: Background Information** addresses five areas that are directly related to medical, communicative and educational characteristics of the learner. The majority of this information can be obtained from the functional assessment interview materials.
- A (1)      Medical information relevant to the occurrence of the behaviors
- Summarize the information addressing medical information found in sections \_\_\_\_\_ of the functional assessment interview.
- A(2)      Educational or skill factors
- Expressive and receptive communication skills are addressed in this section. The case manager should refer to sections \_\_\_\_\_ of the functional assessment interview for this information.
- If any other information appears to be important, it can be placed in this section, under "c. Other". For example, if the learner happens to have a large sight word vocabulary, or is especially adept at using a specific communication system, the case manager may document this information in this section.
- A(3)      Learner preferences
- The learner's likes and dislikes can be found in sections \_\_\_\_\_ of the functional analysis interview. The case manager should note these under "a" and "b" of this section.
- A(4)      Staff/learner ratio
- Staff/learner ratio can be obtained from sections \_\_\_\_\_ of the functional analysis interview, as well as from the direct observation

form. If the staff/learner ratio varies according to time of day or instructional period, be sure to note this in this section.

A(5) Additional factors

Any additional factors pertaining to the background information of the learner should be documented in this section.

Step 4

**Section B: Description of the Behavior**, focuses on the challenging behavior itself. The function of the behavior, and predictive events and environments should be noted in this section.

B(1) Behavior

In this section, the case manager should provide an objective description of the challenging behavior(s) that are of concern. For example, "The learner engages in aggressive behavior consisting of pinching and pushing peers".

Frequency/intensity/Duration

The frequency (e.g., How often does the behavior occur in a given time period), the intensity (e.g., Does the learner cause tissue damage? Is s/he inflicting pain on other individuals?) and the duration (e.g., How long does the learner engage in the challenging behavior?) should each be documented in this section of the presentation form. This information can be obtained from the functional assessment interview and direct observation summary form.

B(2) Variables/environments where the behavior is likely to occur

The case manager can refer to sections \_\_\_\_\_ of the functional assessment interview, in addition to the functional assessment summary form, to obtain information addressing variables and environments where the behaviors *are likely* to occur.

B(3) Variables/environments where the behavior is not likely to occur

The case manager can refer to sections \_\_\_\_\_ of the functional assessment interview, in addition to the functional assessment summary form, to obtain information addressing variables and environments where the behaviors are *not likely* to occur.

B(4) Functions that the behavior(s) appear to serve

Functions that the behavior(s) appear to serve can be obtained from both the functional assessment interview and the direct observation summary form. Sections \_\_\_\_\_ of the interview form address the functions of the challenging behaviors.

B(5) Consequences typically provided

The case manager may refer to sections \_\_\_\_\_ of the functional analysis interview form and the functional analysis summary form in order to obtain information regarding the consequences that are typically provided to the learner upon engagement in challenging behaviors.

Step 5

**Section C: Past Interventions and Outcomes**, addresses instructional strategies that were previously implemented in order to decrease or extinguish the learner's challenging behavior(s). Strategies are reported during the functional assessment interview and can be found in sections \_\_\_\_\_ of the corresponding assessment materials.

**Decision Making Protocol**

**Presenting the Problem**

**Exploring Alternatives**

**Selecting Potential Intervention Strategies**

### Brainstorming Summary Form

Student: \_\_\_\_\_ Date: \_\_\_\_\_ Case Manager: \_\_\_\_\_

1. List the behaviors of concern:  
\_\_\_\_\_
2. List the activity during which you want to influence the behavior:  
\_\_\_\_\_
3. Describe the staffing pattern during this activity:  
\_\_\_\_\_
4. List the function that the behavior serves during this activity:  
\_\_\_\_\_
5. List the potential interventions that would be appropriate given the information listed above

Interventions

Program Monitoring

Baseline

Intervention

6. Other tasks to be performed and person(s) responsible:

**Brainstorming Summary Form**

Directions for use:

- Step 1** Note the learner's name, the date of the intervention brainstorming session and the case manager's name on the corresponding lines at the top of the form.
- Step 2** On the line labeled number 1, list the challenging behaviors that were of concern.
- Step 3** On the line labeled number 2, document the activity during which the team aims to influence the challenging behavior. For example, activity(s) where the actual intervention is to take place are noted in this section.
- Step 4** On the line labeled number 3, describe the staffing pattern during this activity. This information can be obtained from section of the functional analysis interview form.
- Step 5** On the line labeled number 4, document the function(s) that the challenging behavior serves during this particular activity. For example, during art a learner may begin to throw materials in order to escape the activity. Therefore, "escape motivated" would be noted in this section.
- Step 6** Section 5 requests that the case manager list the potential interventions that the T. A. team determined would be appropriate for this learner. Methods to monitor learner progress should also be documented in this section. Suggestions for monitoring learner progress during both baseline and intervention conditions should be documented in the corresponding columns of this section.
- Step 7** During the brainstorming session, specific tasks may be assigned to members of the T. A. team. For example, one member may be asked to gather reading materials for members of the IEP/IFSP team. Another member may be requested to obtain materials for a communication wallet. Each task, in addition to the name of the team member who is responsible for performing it, should each be documented in the section labeled number 6.

## BEHAVIOR INTERVENTION PLAN

Student: \_\_\_\_\_ D.O.B. \_\_\_\_\_  
Case Manager: \_\_\_\_\_ Program Started \_\_\_\_\_

### STATEMENT OF THE PROBLEM

### BEHAVIORS TO BE INCREASED

### BEHAVIORS TO BE DECREASED

### INTERVENTION PROCEDURES

DESCRIBE THE INTERVENTION SEQUENCE:

HOW TO INCORPORATE SPECIFIC INSTRUCTIONAL PROCEDURES

MATERIALS NEEDED

CORRECTION PROCEDURE

- a. no response
- b. incorrect response
- c. correct response

DATA COLLECTION SYSTEM  
(see attached)

REVIEW AND MONITORING PROCEDURES

DISCUSSION OF WHY THIS PROCEDURE WAS SELECTED

KNOWN RISKS OR DISCOMFORTS ASSOCIATED WITH THE PROCEDURE

CONDITIONS UNDER WHICH THE INTERVENTION WILL BE DISCONTINUED

COORDINATION WITH FAMILY OR CARE FACILITY

THIS PROGRAM HAS BEEN CAREFULLY REVIEWED AND I AGREE WITH THE INTERVENTION DESCRIBED ABOVE. I UNDERSTAND THAT THE PROGRAM CAN BE STOPPED AT ANY TIME IF I DISAGREE WITH IT.

PARENT/GUARDIAN \_\_\_\_\_ DATE \_\_\_\_\_

IEP MANAGER \_\_\_\_\_

IEP TEAM \_\_\_\_\_

BEHAVIOR ASSISTANCE TEAM CASE MANAGER \_\_\_\_\_

SPECIAL EDUCATION CONSULTANT \_\_\_\_\_

**Proactive Intervention Resource Team  
FeedBack Form**

Directions: Please rate the following statements on a scale from 1 to 4: 1 meaning you strongly disagree with the statement, and 4 meaning you strongly agree with the statement

1. The PIRT case manager was responsive to my needs.	Strongly Disagree 1	Disagree 2	Agree 3	Strongly Agree 4
2. The PIRT case manager worked in a collaborative manner.	Strongly Disagree 1	Disagree 2	Agree 3	Strongly Agree 4
3. The PIRT case manager was flexible in scheduling meeting and observation times.	Strongly Disagree 1	Disagree 2	Agree 3	Strongly Agree 4
4. The PIRT case manager was knowledgeable about a variety of intervention techniques and presented them well.	Strongly Disagree 1	Disagree 2	Agree 3	Strongly Agree 4
5. The types of interventions suggested were realistic for my situation.	Strongly Disagree 1	Disagree 2	Agree 3	Strongly Agree 4
6. I felt I was an active participant in discussing intervention options and in selecting the intervention(s).	Strongly Disagree 1	Disagree 2	Agree 3	Strongly Agree 4
7. The PIRT case manager was flexible in providing the necessary on-going technical assistance I needed to implement the interventions (s).	Strongly Disagree 1	Disagree 2	Agree 3	Strongly Agree 4
8. The PIRT case manager was available for follow-up and trouble shooting after the intervention was implemented.	Strongly Disagree 1	Disagree 2	Agree 3	Strongly Agree 4
9. The intervention was beneficial to the child.	Strongly Disagree 1	Disagree 2	Agree 3	Strongly Agree 4
10. If in need of information or assistance, I will refer to PIRT in the future.	Strongly Disagree 1	Disagree 2	Agree 3	Strongly Agree 4

11. Additional comments/suggestions:

Fig. 1

**Instructional Styles**

Instructional Responsibility	
<p><u>Interventionist Assumes Responsibility.</u> Some interventionists prefer to take sole responsibility for direct instruction and may choose to utilize support staff for more tangential responsibilities, such as toileting, preparation of materials and paper work.</p>	<p><u>Responsibility is Delegated.</u> Other interventionists may prefer to share the responsibility of instruction with support staff. They may assign staff to particular students or to particular curriculum areas (e.g., gross motor, art, music, etc.). The support staff are therefore key participants in the learner's instructional program.</p>
Group Size	
<p><u>Large Group.</u> Some interventionist provide instruction within a large group format. All of the learners sit together and participate in the same activity and the interventionist moves from learner to learner providing assistance and/or directions. For example, an interventionist may seat a group of 8 students in a circle to have them participate in a music activity.</p>	<p><u>Individual/Small Group.</u> Interventionists may also prefer to teach learners individually or in a small group (2 or 3 learners). In this situation, the interventionist works with one learner (or a small group) on a particular task (e.g., tracing shapes or painting a portrait).</p>
Task Presentation	
<p><u>Sequential Presentation of Tasks.</u> Interventionists may provide instruction to learners by sequentially presenting a variety of tasks. For example, the learner may be assigned a specific place in the classroom where instruction takes place. The interventionist during an arts and crafts period may then sequentially present three tasks to the learner (e.g., a cutting activity, a coloring activity, and a weaving activity).</p>	<p><u>Learning Centers.</u> Some interventionist set up their classroom so that there are a number of "learning centers". Each "center" may have an area for a small group of learners to work. One activity would be available at each center. The learners could then rotate through the centers, stopping to participate in each of the activities. For example, during an arts and crafts period, one center could be designated as the cutting center, one as the coloring center and another as the weaving center. Staff may be assigned to the centers (thereby staying in their assigned area) or to a group of students (thereby traveling with the students).</p>

Fig. 1 (continued)

Instructional Styles

Instructional Opportunities	
<p><u>Discrete Teaching Opportunities.</u> Some interventionists prefer to teach skills in a highly structured manner. They may introduce mass teaching opportunities to the learner in one sitting. For example, if a learner's objective is to identify and differentiate shapes, the interventionist may choose to present the learner with a number of teaching trials in one 10 minute instructional period, using a variety of plastic shapes.</p>	<p><u>Naturally Occurring Opportunities.</u> Other interventionists may prefer to incorporate teaching opportunities into a variety of ongoing activities. For example, if the objective for a learner is to identify shapes, the interventionist may pick naturally occurring opportunities to draw attention to the geometric shapes of objects in the learner's environment. Such an interventionist may therefore draw attention to "round" and "rectangular" shaped cookies during snack, and "triangular cones and "round" balls during soccer.</p>

APPENDIX III  
Procedures and Data Displays

## Using Preferred Activity as a Distractor on the Crying Behavior During Dressing Time

### Participant

Tony is a 4 year old boy with severe disabilities. He wears hearing aids and is currently being tested for vision problems. He does move toward and respond to noise. He will visually track preferred items; however, he does not often look at the other persons in the room. He moves independently by crawling, and can walk when stabilized with two hands.

### Dependent Variable

**Verbalizations:** This elevated verbalization usually includes a hooting sound. These noises are typically accompanied by tensed facial expressions and tensed hand movements. This behavior is exhibited at the end of the day when the paraprofessional dresses Tony to go home on the bus. This includes putting on leg warmers, coat, mittens, and hat. It was determined by the case manager that the function of the behavior during this activity was avoidance or escape.

### Independent Variable

The technical assistance team has decided to implement a program using an activity to distract Tony from the dressing process. It has been determined that his crying behavior is at lower levels while he is walking. Therefore the preferred activity will be walking (i.e., standing in front of the aide taking steps while being held by both hands).

### Procedures

**Dressing.** The paraprofessional will put Tony in his wheelchair and roll him to the door at which time she will hand him a picture symbol card of a bus and state, "Tony, it's time to go to the bus." She will then transport Tony down to the bus area in his wheelchair, take the picture symbol away, take him out of his chair, and give him the prompt "Tony, it's time to walk." (with assistance). At this point she will have him take at least two steps, stop and put his coat on him. She will continue to have him take several steps, stop and dress him in one article winter gear until he is completely dressed to go home. The paraprofessional will then assist him in getting back into his wheelchair and state "Tony, you are all dressed, it's time to go home."

**Fading<sup>1</sup>.** All procedures will remain the same as in the Dressing phase, however, the paraprofessional will begin putting his winter wear on using a backward fading process. That is, she will follow all procedures; however, just prior to putting the last article of clothing on Tony (i.e., leg warmers), she will assist him back into the wheelchair and

dress him while he is sitting in the chair. This will continue until she is able to put all of his winter wear on in the wheelchair.

Fading 2. All procedures remain the same except the leg warmers and hat are put on while he is in the wheelchair.

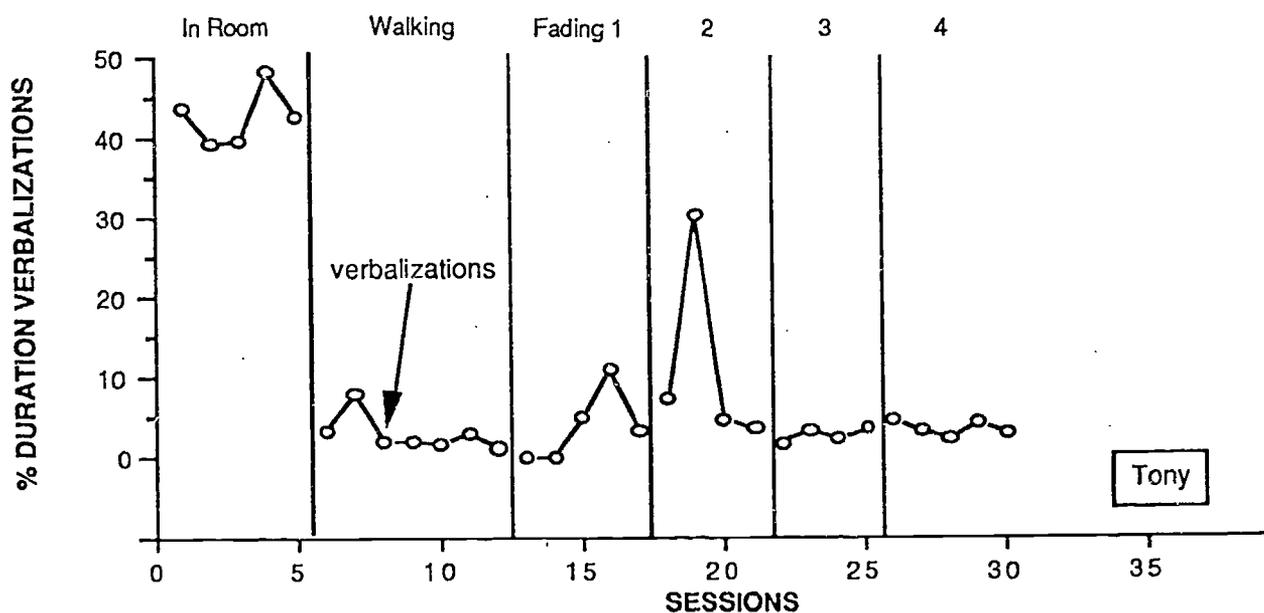
Fading 3. All procedures remain the same except the leg warmers, hat and coat are put on while he is in the wheelchair.

Fading 4. All clothing is put on while he is in the wheelchair and still in the classroom. That is, the paraprofessional does not transport Tony down to the bus area until after he is dressed in the room.

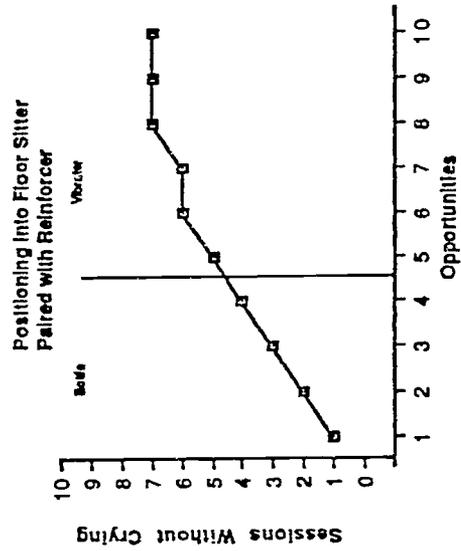
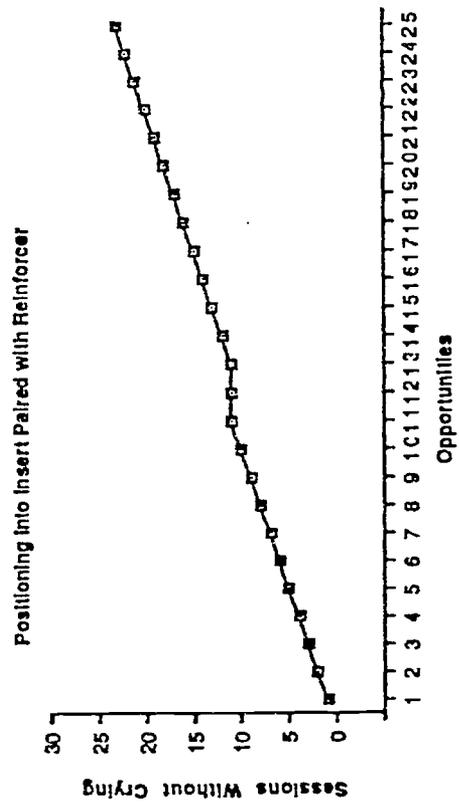
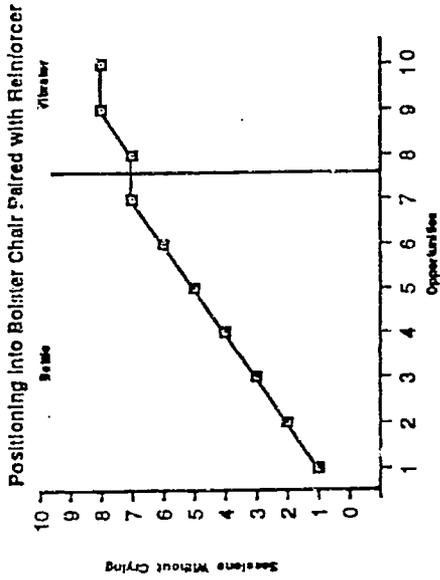
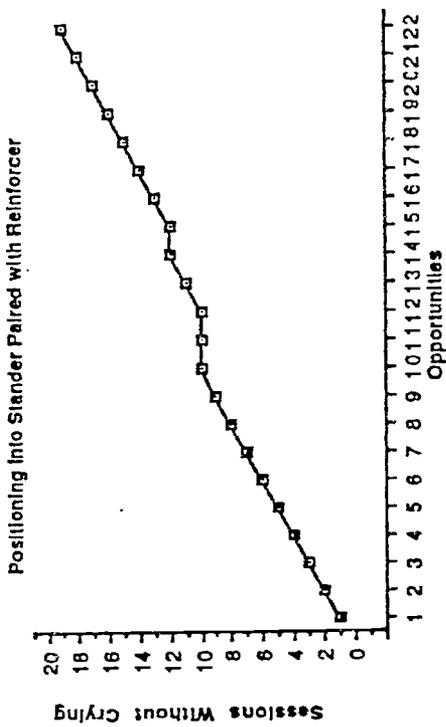
Measurement and Data Collection

The measurement system will be the percent duration of the screaming behavior. This will consist of dividing the total time Tony screams by the total time it takes to get Tony ready to go home on the bus. Data will be collected by attaching a hand held cassette tape recorder to Tony's wheelchair. The case manager will transcribe the tapes at a later date. The total time it takes to get ready for the bus will start when the paraprofessional gives the prompt "Tony, it's time to go to the bus," and will end when she says "Tony, you are all dressed, it's time to go home." A cumulative screaming time will be recorded by starting the stop watch when the behavior begins and ending when the behavior has ceased for two seconds.

Data from Tony: Verbalizations During Dressing

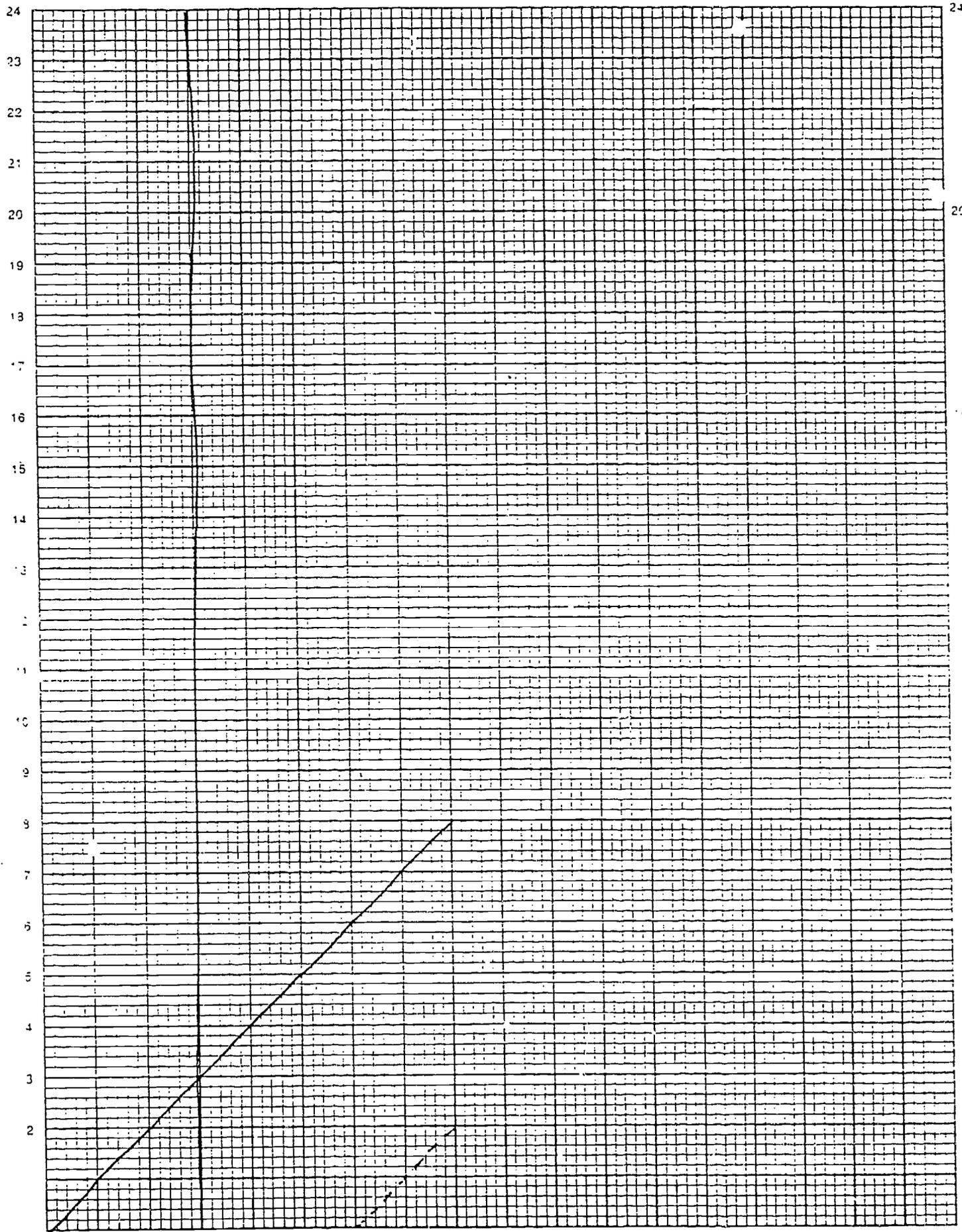


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# DISTRACTOR

— preferred activity --- non-preferred activity



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Baseline Intervention

APPENDIX IV

Products

# Districtwide Technical Assistance Teams: Designing Intervention Strategies for Young Children with Challenging Behaviors

Mary A. McEvoy, Carol Ann Davis, and Joe Reichle

Over the past few years, we have seen a rapid expansion of services for young children with disabilities. In addition, there has been an increase in the programmatic options and models for serving children with disabilities in settings with their typically developing peers. It is clear that researchers are exerting unprecedented effort to evaluate and refine these program features and models to ensure maximally effective services in the least restrictive environment.

At the same time, however, local early childhood programs are wrestling with the problems associated with integration. While they may clearly agree with the *spirit* of inclusion, oftentimes they lack the expertise to work effectively with all children in inclusive settings. One group of children that appear to be at particular risk for failure in inclusive settings are children with emotional/behavioral difficulties. In fact, teachers and related service personnel are often faced with an overwhelming array of behavior problems that must be addressed in order to create effective and long-term inclusive educational opportunities. In short, local school districts need realistic, well-designed, and proven procedures for intervening with young children with emotional/behavioral disorders in inclusive education classrooms, and just as important, ways to teach teachers and others to implement these procedures.

Typically, school districts have relied on outside consultants to work with teachers to design effective interventions for children with emotional/behavioral disorders. These consultations usually include a combination of inservice training and direct consultation about a child's specific behavioral problem. Wolfe (1991) and Reichle (1990) have identified a number of problems inherent in this model. Generally, consultants become involved once a behavior problem is at a crisis level. This often creates a situation in which reactive interventions are implemented. Although immediate effects may be seen, these interventions often do not include procedures for teaching positive replacement behaviors or provisions for fading more intrusive interventions over time. Second, in many situations, consultation and inservice training do not include ongoing feedback or evaluation. The lack of follow-up does not address intervention implementation issues or possible need for intervention change. Finally, there is no provision for systemwide training when consultants are hired on a case-by-case basis.

Based on these and other problems associated with short-term inservice training, there appears to be a growing consensus that *longitudinal on-site technical assistance* is a critical and important aspect of effective consultation (Bailey, 1989; Fredericks & Templeman, 1990). In fact, Campbell (1990) has suggested that quality consultation results in (a) delineation of specific training needs, (b) incentives for personnel to participate, (c) clear identification of expected outcomes, and (d) supervised application of information with ongoing feedback. One longitudinal consultation model that addresses the problems identified above and includes these components of effective inservice training is the technical assistance team model (Reichle, 1990).

The purpose of this article is to provide a brief overview of the critical components of a longitudinal technical assistance model as they have been used to address the challenging

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behaviors of young children with emotional/behavioral disorders. This model includes (a) specific procedures for the selection and training of technical assistance team members, (b) provision of ongoing consultation to professionals who work with children with challenging behaviors, (c) generation of districtwide support for the technical assistance team, and (d) suggestions for evaluating the technical assistance.

### Selecting the Technical Assistance Team

The overall purpose of a technical assistance team is to provide ongoing assistance to teachers who work with young children with emotional/behavioral disorders or to the families of these children. The team is comprised of four to six professionals from a number of disciplines that typically work with young children with disabilities and their families. These disciplines include, but are not limited to, early childhood special educators, speech and language pathologists, school psychologists, occupational therapists, and physical therapists. In addition, as the team deals with the behavioral problems of a specific child, the child's classroom teacher and parent(s) are encouraged to participate as members of the team. Locke and Reichle (1990) have identified specific general competencies for technical assistance team members as shown in Table 1.

**TABLE 1**  
*Competencies for Technical Assistance Team Members*

#### General Content Competencies

- Respected expertise in her/his professional discipline(s)
- Extensive history of work with young children with and without emotional/behavioral disorders in educational settings
- A respect for objective data-based instruction and decision making
- Prior experience in a team leadership role within the educational process
- Demonstrated ability to provide technical assistance to parents and/or other professionals
- Demonstrated experience as a participant in a team process (ability to negotiate and compromise)
- Commitment to inclusive education
- Commitment to a role release model for providing therapy services in integrated school and community settings

#### Specific Content Competencies

- Implement functional analyses of challenging behavior that includes mastery of interview observation and analogue assessment techniques
- Implement proactive modifications of the environment that reflect natural modifications to minimize the emission of challenging behavior
- Implement proactive strategies that have been demonstrated to promote positive social interactions
- Implement communication intervention strategies that serve to establish socially acceptable alternatives to socially motivated challenging behavior
- Recognize when to refer a child to medical evaluation of conditions that may contribute or serve as setting events for challenging behavior
- Work with parents and early intervention staff to match proactive intervention procedures that correspond to needs identified via functional analysis

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Once potential team members have been identified, it is important that individual professionals agree to participate as members of the team. Each team member is released from her/his discipline specific responsibilities for 4-8 hours per week in order to provide districtwide consultation. While this may appear costly, it has been the authors' experience that the expense of longitudinal technical assistance is offset by the potential costs of hiring outside consultants on a limited case-by-case basis.

### Training the Technical Assistance Team

Because virtually no professional working with young children has extensive expertise in the area of emotional/behavioral disorders, it will be necessary to provide on-the-job training to technical assistance team members. Specific competencies that should be established among team members after training are also included in Table 1. However, three areas of training appear to be most critical — effective communication, assessment and intervention development, and ongoing evaluation. These three areas are discussed in detail below.

*Effective communication.* Effective communication skills are important both among team members and between team members and the recipients of technical assistance. A key component of a good technical assistance team is interdisciplinary collaboration which involves professionals from multiple disciplines and a child's family working together to create a joint plan for assessment, intervention design, and evaluation. Each person brings to the team expertise from her/his own discipline which is actively transmitted to other team members.

Effective communication between team members and those receiving the technical assistance (i.e., teachers, parents) is another crucial area. This is of particular importance given the fact that there is a shared responsibility for assuring that tasks are completed and goals are achieved. Effective communication skills include: (a) sharing information about assessment techniques, instructional strategies, intervention procedures, and so forth in jargon-free language with specific detail; (b) soliciting information in a nonthreatening or evaluative manner; (c) listening and summarizing critical information; and (d) adjusting consultation style to fit the needs and skill levels of classroom staff or parents who are being given the technical assistance. Ongoing communication, both among team members and with those being assisted, helps assure that interventions are designed and implemented effectively.

*Use of appropriate assessment strategies and intervention development.* As stated previously, the ultimate goal of the technical assistance team is to develop effective interventions that will assist professionals who work with young children with challenging behavior as well as the child's family. Thus, team members must be well versed on the use of appropriate assessment and intervention strategies. Critical to the success of implementing an appropriate and proactive instructional program for children with behavioral disorders is the assessment of the antecedents and consequences that control the undesirable behaviors. A number of researchers have examined the function of behavior (i.e., why children engage in a particular behavior; Carr & Durand, 1985; Doss & Reichle, 1991). Generally, the function of a behavior falls into one of two categories — attention seeking or escape/avoidance. O'Neill, Horner, Albin, Storey, and Sprague (1990) have identified three strategies to collect this information.

First, team members are trained to conduct interviews with teachers, school personnel, parents, and others who have direct contact with the child to define the behaviors of concern and to obtain information on the potential antecedents and consequences that maintain the inappropriate behaviors. Next, team members and the recipients of the technical assistance are taught to conduct direct observations of the challenging behaviors. These observations consist of recording instances of particular behavior(s) as well as antecedents and consequences surrounding the behavior(s). Direct observations are conducted throughout the day in all settings and provide team members with the information on the frequency or duration of the behavior, times of day the behavior occurs, settings and situations in which the behaviors occur and do not occur, and the consequences of the behaviors. These observations are then analyzed to determine patterns in the emission of the behavior. For example, variables such as the time of day or activity requested are examined to determine if the behavior occurs consistently.

From these patterns, the team members usually can generate a hypothesis of the function the behavior serves for the learner (e.g., obtaining tangibles, avoiding objects or activities). However, on occasion it is necessary to manipulate environmental variables to determine the function of the behavior. Team members are trained to systematically manipulate variables such as teacher or staff attention, interruption of preferred tasks, or presentation of difficult tasks. By manipulating these variables, the team and teacher or parents can accurately predict when the behavior will occur and the function the behavior serves.

### Interventions

Once a functional assessment has been completed and the specific maintaining variables have been identified, technical assistance recipients and the team members are better prepared to design effective intervention strategies. Technical assistance team members have a variety of proactive intervention strategies from which to choose. For example, three areas of intervention strategies which have been used effectively to decrease inappropriate behavior are *environmental arrangements* (e.g., McEvoy, Fox, & Rosenberg, 1991; Sainato, 1990), *social interaction and communication training* (e.g., Odom, McConnell, & McEvoy, 1992; Reichle, York, & Sigafoos, 1991), and *manipulation of antecedent events* (Davis, Brady, Williams, & Hamilton, 1992; O'Neill et al., 1990). Examples of behaviors and interventions representing the three areas delineated above are listed in Table 2.

**TABLE 2**  
*Examples of Behavior, Assessment, and Interventions*

Behavior	Assessment	Intervention
Moves from activity to activity rapidly, disrupting, hitting as child roams classroom area	Activity area too large with too many material choices to limit attention	Environmental Arrangements: simple rearrangement of room to limit activity space, limit access to number of toys, zone teacher supervision
Hits and tantrums when changing from one activity to another	Problem transitioning from one activity to another	Manipulation of Antecedent Events: use behavioral momentum to increase probability of transitioning to new activity (3 quick easy tasks prior to delivering requests to change activities)
While during play activities, pulls hair of peer who attempts to share materials	Attempts to avoid social interaction with peer	Social Interaction Training: train appropriate social interactions with activities by adapting typical games and songs to include interactions with other peers
After 1 minute sitting in physical education class, leaves area, disrupts others, and tantrums	Attempts to escape situation or activity with avoidance behavior	Teaching Communication Alternatives: After 45 sec., child is prompted to touch a picture symbol indicating "Need a break." Child is given 1-minute break and directed back to activity for another session. The time child is required to stay engaged in activity is gradually lengthened

### Providing Technical Assistance.

It is important that school districts generate guidelines for referrals to the technical assistance team. Generally, there are two types of referrals.

First, personnel may request general technical assistance for effective strategies to manage challenging behavior on a classroomwide basis. If this occurs, technical assistance team members provide general assessment and behavior management strategies in consultation with a specific teacher or groups of teachers. The second type of referral is child specific and generally comes via a request from the child's IEP/IFSP team to the technical assistance team. Once a referral of this type is made, a member of the technical assistance team is designated as the case manager and begins collecting assessment information (i.e., interviews and direct observation). When the necessary assessment information has been obtained, the case manager presents the referral problem and related assessment information to all the technical assistance team members at a regular weekly meeting where the team reviews the information and develops a proactive intervention strategy. This information and strategy is then presented to relevant professionals and the child's family. Once an intervention is chosen by the child's IEP or IFSP team, the technical assistance team case manager *negotiates* the duration and frequency of ongoing technical assistance with the child's teacher or parents. Table 3 covers a program tracking form which outlines the steps described above.

**TABLE 3**  
*Program Tracking Form*

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Activities - Week 1	Receive referral
	Assign case manager
	Complete assessment interview
	Complete direct observation
Activities - Week 2	Present assessment information to team
	Complete brainstorming
	Instruct teacher/family on collecting baseline data
	Collect reliability data on teacher's/family's baseline data collection
	Consult with teacher/family on intervention plan
Activities - Week 3	Present intervention plan and data collection form to team
	Instruct/model teacher/family on implementation of program
	Collect reliability data on teacher's/family's implementation of the program
	Continue to collect reliability data on teacher's/family's data collection
Activities - Week 4	Present data on student progress to team monthly
	Instruct teacher/family to complete technical assistance evaluation form

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**Generating Districtwide Support for the Technical Assistance Team**

It is critical that districtwide support for the technical assistance team be generated. A number of activities can be implemented to increase awareness of the team and its responsibilities. For example, a full day districtwide inservice is often held, one purpose of which is to provide to other personnel a thorough description of and rationale for the technical assistance team. Specific examples of situations for which helpful technical assistance can be provided may be generated through videotape or case study presentations. A second purpose of the inservice training is to describe the referral process and to solicit referrals. Finally, an overview of procedures that represent "best practice" in the area of preventing and remediating repertoires of challenging behavior is often presented. This component of the inservice acquaints participants with basic intervention strategies via vignettes or role-playing strategies.

The use of inservice training opportunities are beneficial in at least three ways. First, they create greater awareness and support for the technical assistance activities; that is, technical assistance team members can utilize regularly occurring inservice/staff meetings to dis-

seminate valuable information regarding instances of successful provision of technical assistance. This in turn maintains a level of enthusiasm and support for the technical assistance model. Second, inservice training sessions can disseminate useful information concerning intervention strategies to interested professionals and parents. Finally, a subset of inservice training participants can be motivated to generate useful curricula or other products that would assist parents or their professional peers. For example, participants might develop a checklist for parents to use in identifying possible health conditions that act as setting events for challenging behavior, identify user-friendly and effective strategies for promoting social interaction among young children with and without challenging behavior, or develop a list of community preschool providers who are willing to include children with emotional/behavioral disorders in their childcare programs.

### Evaluation

The technical assistance team is evaluated on three levels — consumer (i.e., recipient of the assistance) satisfaction, teacher/family implementation, and learner change. The primary purpose of the technical assistance team is to provide support and services to consumers who have children with challenging behaviors; therefore, it is important to know if these services are truly beneficial. A consumer satisfaction evaluation is completed by recipients to assess the utility and practicality of the proposed interventions as well as the cooperation of the team members. In addition, technical assistance team members conduct weekly observations to determine if interventions are being implemented reliably. Finally, the most potent indicator of success is the change in learner behavior; from the point of assessment, data are collected on the target problem behaviors. Decreases in these behaviors and increases in appropriate behaviors are an indication of the success of the technical assistance team approach.

### SUMMARY

The procedures described above — identifying and training districtwide technical assistance teams, developing operating procedures for these teams, generating districtwide support, and evaluating technical assistance — represent the critical components of effective longitudinal technical assistance for professionals serving young children with challenging behaviors. It is clear that districts will have to contribute significant time and financial resources in order to assure quality technical assistance. In addition, districts may have to rely on outside consultants initially to train the technical assistance team members using a *train-the trainers* model. However, given the increase in numbers of children who exhibit challenging behaviors, districts must develop ongoing inservice and technical assistance training opportunities that not only provide information about intervention strategies, but also provide ongoing consultation and assistance to teach professionals and parents how to implement the interventions effectively.

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Coordinating Preservice and Inservice Training of Early Interventionists  
to Serve Preschoolers Who Engage in Challenging Behavior

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RUNNING HEAD: CHALLENGING BEHAVIOR INSERVICE

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This chapter will focus on the need to coordinate and improve preservice and inservice training (including technical assistance) for professionals who serve professionals and family members who live with young children that engage in challenging behavior. In this chapter, we will establish that the number of young children who engage in challenging behavior is increasing and that current preservice and inservice activities have not kept pace with strides in instructional technology and more progressive service delivery strategies. After identifying needs in current preservice and inservice training regimens, we will suggest practices that we believe represent some of the steps needed to create a more coordinated approach to preservice and inservice training.

#### CHALLENGING BEHAVIOR AMONG YOUNG SCHOOL-AGE CHILDREN REPRESENTS A SIGNIFICANT AND GROWING PROBLEM

Challenging behavior (e.g., problem behavior, excess behavior, and behavior disorder) has been defined as "behavior emitted by an individual that results in self-injury, injury to others, causes damage to the physical environment, interferes with the acquisition of new skills or isolates the learner" (Doss & Reichle, 1991, p. 215). Retrospective analyses suggest that a significant proportion of individuals with severe challenging behaviors had onset in early childhood (Green, 1967; Schroeder, Mulick, & Rojahn, 1980) and these numbers appear to be increasing in both urban and rural areas. For example, Brandenburg, Friedman, and Stern (1987) have reported that 14-20% of typically developing and children at risk exhibit behavioral and emotional problems while other investigations have estimated that between 13% and 31% of young children with identified developmental disabilities have severe behavior disorders (Chess & Hassibi, 1971; Donahue & Abbas, 1971; Eaton & Menolascino, 1982; Schroeder, Schroeder, Smith & Daldorf, 1978). Timm (1993) has noted that families of young children described as having moderate to severe behavioral disorders have constituted the largest group of referrals to regional intervention programs across the United States. In addition, a recent Government Accounting Office (GAO) report noted that unprecedented numbers of low-income children are collecting disability benefits for behavior problems. In fact, the number of children receiving SSI benefits more

than doubled in four years from 296,300 in 1989 to 770,500 in 1993 (St. Paul Pioneer Press, Wednesday, Sept. 14, 1994).

Unfortunately, among many who serve preschoolers who engage in challenging behavior, there is a tendency to believe that children may "outgrow" challenging behavior. Actually, there is evidence to suggest that behavior problems emitted by preschoolers is not outgrown and, in fact, has a propensity to worsen over time (Green, 1967; Schroeder, Mulich, & Rojahn, 1980; Smeets; 1971). This, in turn, fosters a benign ignoring of low level repertoires of self injury, aggression and stereotypic behavior.

#### CHILDREN WITH CHALLENGING BEHAVIOR ARE "AT RISK" FOR RECEIVING A QUALITY EDUCATIONAL EXPERIENCE

Will (1984) observed that children with behavior problems do not benefit maximally from their educational placements. Among regular elementary teachers serving children with disabilities in regular educational settings, the reason most frequently cited for returning children to a more restrictive educational placement is the emergence or persistence of a repertoire of socially motivated challenging behavior.

While there is a strong consensus that providing educational services in inclusive educational and home environments is critical, children with challenging behavior are often not included in day care and inclusive public school programs involving peers who are typically developing (Giangreco & Putnam, 1992; Danforth & Drabman, 1989; Walker & Rankin, 1983). Teachers and related service personnel report that they are faced with an overwhelming array of behavior problems that must be addressed quickly and efficiently in order to create effective and long-term inclusion opportunities. Schloss, Sedlacek, and White (1983) reported that regular educators tend to have a limited tolerance with children who engage in challenging behavior. In part, this limited tolerance may account for teachers' propensity to rely more on reactive strategies (timeout, overcorrection, response cost, verbal threats/reprimands) rather than more proactive strategies. Social workers report repertoires of challenging behavior as one of the greatest stumbling blocks in providing home-based service to preschoolers (Reichle, 1993). In fact, Carta et al. (1993) reported that challenging behaviors are the

number one reason given by teachers for referring young children to special education programs.

THERE IS A NEED FOR INCREASED EMPHASIS OF TRAINING  
FOR PROFESSIONALS WHO SERVE CHILDREN WHO ENGAGE IN CHALLENGING BEHAVIOR

The educational dilemma is striking. Educators have a propensity to terminate regular educational placements for children with challenging behavior presumably assuming that the children would be better served by professionals who have the expertise to address challenging behavior. Unfortunately, available data suggest that even early interventionists may have limited expertise and confidence in implementing strategies to proactively address repertoires of challenging behavior emitted by young children. With the increasing demands for progressive educational service come critical needs for professionals to receive assistance in learning how to implement proactive assessment and intervention strategies with young children who engage in challenging behavior.

Wolff (1993) conducted a survey to examine the inservice and technical assistance needs of educators currently serving preschoolers in Minnesota. The 464 professionals (including special education leaders, early childhood teachers, speech-language pathologists, and school psychologists) surveyed were asked to rank areas for which additional training was needed. In order of priority, educators specified the greatest need for additional training in 1) functional communication intervention, and 2) antecedent based intervention strategies to address challenging behavior.

In addition to the critical need for inservice training, recognition of a significant preservice training need in the area of best educational and family support practices was highlighted in a national working conference on positive approaches to the management of challenging behavior sponsored by the National Institute on Disability Research and Rehabilitation (Reichle, 1991). Among the most critical priorities identified involved the prevention of emerging repertoires of challenging behaviors through improving the quality of and availability of preservice and inservice training.

At first glance, one might view that we have identified a need for enhanced inservice and technical

assistance. This need could be explained logically as emanating from rapid scientific advances that have led to the development of more effective assessment and intervention strategies. To some extent, this is the case. Since the mid 70's a technology of assessment and intervention that increasingly relies on preventative intervention strategies rather than reactive intervention strategies has emerged. At the same time the instructional technology was expanding, there were increased demands on special educators to transmit this information to regular educators in the process of creating more inclusive educational settings. Failing to adequately transmit information regarding this new technology has resulted in our failure to develop quality inclusive educational placements for children who engage in challenging behavior.

However, to place responsibility for the challenges that we have identified solely on the need for updating the skills of already well trained professionals would be a gross oversimplification of the real problem. The basic staff needs that we have observed suggest that a significant proportion of public school professionals are not being adequately trained at the preservice level. Gaps of knowledge and implementation skills required to work with persons who engage in challenging behavior go far beyond the need for finetuning an existing repertoire of established professional competencies. We believe that many of the challenges to preservice training programs involve more carefully attending to the tasks that professionals will be required to perform when they have completed their degree.

#### CHALLENGES FACING PRESERVICE PERSONNEL PREPARATION PROGRAMS

Improved preservice training addressing proactive approaches to managing challenging behavior has been forthcoming but limited at the University level (Fifteenth Annual Report to Congress on the Implementation of The Individuals with Disabilities Act, U.S. Department of Education, 1993). A principal reason for this is that preservice training programs in special education and related disciplines often have isolated themselves from each other and from involvement with their colleagues working in public schools.

Preservice students in education and related therapy disciplines rarely interact in courses or in practicum experiences (Rainforth, 1985), even though each of these groups of professionals must share a common base of

information regarding communication, behavior management, positioning and handling, and a host of other areas. Because it is very difficult for one person to be an expert in all areas, there is a tremendous need for professionals serving young children with disabilities and their families to engage actively in a joint transdisciplinary effort in decision making and program implementation. Despite this need, Locke and Reichle (1989) reported that public school professionals often report that they work in isolation. Additionally, Courtnage and Smith-Davis (1987) reported that of the 360 higher education institutions who participated in their investigation, 48% offered no training in team collaboration. Among the most frequently cited stumbling blocks to the implementation of a collaborative model of personnel preparation are: 1) confusions regarding responsibilities; 2) absence of administrative support and structure; and 3) turfism regarding the ownership of courses within departments. A principal reason for a lack of collaboration rests with preservice training programs in special education and related disciplines who often have isolated themselves from each other. For example, students in speech-language pathology, special education, and school psychology rarely interact in courses or in practicum experiences (Rainforth, 1985).

Baumgart and Ferguson (1991) have emphasized the importance of refocusing university preservice instruction to place greater emphasis on team collaboration and the use of on-site team problem solving. In placing greater emphasis on applied experiences, they have suggested that it will be necessary to ensure that practica are not simply "practicing labs" but collaborative instructional settings in which the practicum student is given sufficient support to approximate a more errorless (vs. trial and error) learning environment. If this is to occur, there must be clear advantages for practicing professionals to provide this arrangement, and there must be active effort at the level of collaborative interaction between university faculty/staff and public school professionals to ensure that public school professionals are in a position to provide a strong collaborative arrangement. The outcome of the lack of preservice collaboration inevitably leads to a lack of collaboration among professionals serving children in public schools (Campbell, 1987; Wolery & Dyk, 1985).

One significant stumbling block to the implementation of preservice training programs that focus on

collaboration with university professionals in other disciplines and with local service providers in serving young children with challenging behavior is the manner in which U.S. Department of Education personnel preparation funding priorities are constructed. Currently within personnel preparation, there are separate grant competitions for inservice training projects (model inservice) and preservice training (masters personnel preparation). Within preservice training competition, an additional distinction is made between special education training programs and related services. The separation in these competitions makes it particularly challenging to fund a well coordinated training program that seeks to commingle preservice and inservice training activities. There is a need for federal agencies to modify their funding priorities to more thoughtfully encourage collaboration across disciplines and across preservice and inservice activities.

In summary, university training programs in the aggregate have not done a particularly good job in developing interdisciplinary and transdisciplinary training across university departments responsible for preparing regular and special educators, speech/language pathologists, physical and occupational therapists, school psychologists, and a host of other related disciplines. An equally challenging area involves the generally sparse development of collaborations between universities and public schools. To some extent, federal funding policy and university bureaucracies may contribute to the existing problem.

Challenges Facing The Effective Provision  
of Inservice Training and Technical Assistance  
to Those Who Serve Children With Problem Behavior

Traditionally, school districts have relied on external consultants to work with educators to design effective interventions for children who experience moderate and severe disabilities (including those who engage in challenging behavior). This consultation often includes a combination of limited inservice and direct "aperiodic" consultation after a brief amount of direct observation of the child by the consultant. Often, consultants to a school program become involved once a behavior problem has reached a crisis level (Reichle, 1993). At this point, technical assistance often focuses on reactive intervention strategies designed to quickly interrupt the

learner from damaging himself or others. Unfortunately, even when more crisis-driven procedures are successful in interrupting challenging behavior, often they do not necessarily include procedures for teaching positive replacement behaviors or provisions for fading more intrusive interventions. This unfortunate cycle is likely to be repeated over and over with emergency/crisis focused reactive procedures becoming progressively more intrusive (Nord, 1994). Consequently, the social motivation that led to the child's emission of the challenging behavior may never be addressed adequately. Because educators are taught only how to address the crisis, it is likely that at some future point the antecedents and consequences that led to the crisis will again occur since they may have been easily overlooked in developing the crisis intervention procedure. We believe that a more progressive model of technical assistance must provide on-site technical assistance to work with teachers and parents to develop a compendium of proactive strategies focused on preventing future episodes of challenging emissions that require crisis intervention.

Part of the difficulty in generating proactive approaches to managing challenging behavior lies in the lack of collaboration among professionals who serve children in schools (Rainforth, York and McDonald, 1993). Unfortunately, professionals (particularly therapists) often work in isolation and place limited effort on seeking to collaboratively plan and implement assessment and intervention strategies (Locke and Reichle, 1989). Rainforth, York & MacDonald (1992) summarized a number of benefits of a collaborative service delivery model that include: (a) increased instructional time for children with disabilities (Albano, 1983; McCormick, Cooper, & Goldman, 1979); (b) improved skill acquisition (Campbell, McInerney, & Cooper, 1984; Giangreco, 1986); (c) decreased passive caregiving in regular educational environments (McCormick, Cooper, & Goldman, 1970), and (d) reduced conflicts among team members (York & Rainforth, 1987).

The general components of inservice delivery strategies that might best meet the collaborative agenda of both preservice training programs and public school service providers has been addressed by Bailey (1989) and Campbell (1990). They concluded that the most immediate short-term inservice personnel needs are likely to be met through a continuum of inservice mechanisms that range from intensive didactic provision of information to

longitudinal on-site technical assistance. There appears to be a growing consensus that longitudinal on-site technical assistance represents a critical component of any exemplary inservice training model (Fredericks and Templeman, 1990). Campbell (1990) suggested that a comprehensive package of inservice and technical assistance requires (1) the delineation of specific training needs; (2) incentives for personnel to participate; (3) clear identification of expected outcomes; and 4) supervised application of information with ongoing feedback.

#### OVERVIEW OF A MODEL TO PROVIDE PRESERVICE AND INSERVICE PREPARATION TO THOSE WHO SERVE PRESCHOOLERS WITH BEHAVIOR DISORDERS

The Minnesota Early Childhood Behavior Support Project is based on the premises that (1) participating universities and school districts are interested in improving services in least restrictive environments for young children with emotional/behavioral problems; (2) a core transdisciplinary group of school district professionals can be taught to become expert deliverers of longitudinal technical assistance and can participate in preservice instruction; (3) this same group of professionals can, with the collaboration of university faculty, design and successfully implement inservice coursework delivered to other professionals and paraprofessionals in intensive workshops that are coordinated with professional advancement; (4) intensive workshops and on-site training can simultaneously serve both preservice and inservice students. Further, as stated earlier, we believe that in order to be effective, the model must be incentives for participation, a clear delineation of outcomes and the active involvement of parents.

#### Establishing Collaborative Relationships Between Universities and Public Schools

##### Identifying Resources to Create Strong Service Delivery Systems

The first step in generating a collaboration between any two entities is determining that the collaboration is mutually beneficial. Consequently, university personnel preparation programs must carefully work with public school professionals, administrators, and parents to identify complementary preservice and inservice needs. This initial activity requires a discussion with school district administrators and a sampling of relevant professional and parents within the district. At this discussion the scope/magnitude of challenging behavior

along with the model of preservice, inservice, and technical assistance collaboration that might be possible between a university and a public school system is discussed openly. If there is widespread support among discussion participants for the further identification of the need, Minnesota project staff conduct a survey of school district staff to verify that managing repertoires of challenging behavior constitutes a significant and ongoing inservice and technical assistance need.

Once evidence is accumulated that supports significant inservice/technical assistance need and that a cooperative program could be mutually beneficial, the university preservice program offers to work with the school district to plan a collaborative project that can continue minimally for a 2- to 3-year period (with yearly joint reviews by the participating parties). School district administration must be willing to create adequate release time or financial compensation to establish a transdisciplinary team that will eventually become the expertise in the area of proactive approaches to the management of challenging behaviors for their school district. Eventually, this team will assume responsibility for providing "on site" technical assistance in home and school. Additionally, team members will develop and implement a plan of longitudinal inservice for district staff in topics pertaining to developing proactive behavioral support plans for young children who engage in challenging behavior.

To create the time resources required to engage in these activities, a participating school district must be willing to release up to .25 FTE to .33 FTE (.20 = 1 day per week) of each of 3 or 4 professional's time to participate. The university, in turn, commits the equivalent of approximately .5 FTE of a highly skilled professional (post doctoral associate or advanced doctoral candidate) during the period of the project to provide mentoring and work collaboratively with the team to meet their objectives. The resulting advantage for participating school districts is a decreased need for expensive external consultants whose information is often not well coordinated and difficult for practitioners to implement and troubleshoot. The advantage for the participating university program is the establishment of high quality training sites that better support practical, applied research, and model demonstration activities.

### Creating Joint Preservice/inservice Coursework and Recruiting Technical Assistance Team Membership

Rather than quickly moving to select a team who may not fully understand the scope of effort required from their involvement, participating university faculty work with school district administrators to organize an on-site two-credit 10-week course addressing proactive approaches to managing challenging behavior. This course is open to all district staff. Staff may take the course for academic credit (at their own expense) or they may participate at no cost if they do not desire university credit. If participants take this course at their own expense, they can apply the credit toward incremental salary advancements discussed earlier. Additionally this course is available to preservice students at the University of Minnesota.

Preservice graduate students can be served by community-based coursework at two levels. First, graduate students who will be candidates for practicum experience can work collaboratively with prospective public school practicum mentors and gain from the experience and knowledge that these professionals bring to the class. Secondly, advanced leadership graduate students can participate in the delivery of course information. Table 1 lists the competencies that students will have acquired as a result of successfully completing this course. A syllabus for this course is included in Appendix A. Although instruction in a variety of areas is of great importance, we believe that information in three areas is critical to the impact of preservice/inservice coursework in developing positive behavioral support plans for young children who engage in challenging behavior. These areas include a) recognizing that challenging behavior may serve social functions; b) being familiar with assessment activities that can be used to determine the function of challenging behavior; and c) identifying intervention options available to address socially motivated challenging behavior.

### Recognizing That Challenging Behavior May Serve Social Functions

Challenging behavior may be either socially or nonsocially motivated. Behaviors that require the mediation of others in order to be consequted are referred to as socially motivated. Examples of socially motivated challenging behaviors include screaming in order to draw the attention of teacher or throwing objects to escape a task that has become too difficult or boring. Even though each of the preceding behaviors is associated with a

different social function, both require the mediation of another person in the environment in order to be consequted. Thus, both are examples of socially motivated challenging behaviors. Behaviors that do not require the mediation of others in order to be consequted are referred to as nonsocially motivated. Examples of nonsocially motivated challenging behaviors include rocking to obtain sensory stimulation and hitting oneself on the side of the head in response to an earache.

Some challenging behavior may originate as nonsocially motivated behavior but across instances become socially motivated. For example, a child might poke his fingers into his eyes because of the sensory stimulation that it provides (nonsocially motivated). However, across instances of eye poking, a history of receiving comforting attention immediately after each instance may develop. If the child enjoys the attention that he is receiving, he may learn to poke his eyes as a means of obtaining attention. Consequently, a behavior that originally served a nonsocial function through reinforcement history may come to serve a social function. Understanding that challenging behaviors are emitted in order to serve a variety of functions is important in that it enables the educator to consider the range of functionally equivalent socially acceptable forms of behavior that serve the same purpose as an existing repertoire of challenging behavior. Recognizing that challenging behavior may be a functional response to antecedents that are biologically/medically related, socially, or nonsocially related is important if professionals are to generate viable hypotheses to test during assessment. Generating viable hypotheses addressing the cause of challenging behavior will allow the most comprehensive scrutiny of antecedents and consequences that may need to be manipulated in order to effect a deceleration of challenging behavior.

#### Being Familiar With Assessment Activities That Can Be Used to Determine the Function of Challenging Behavior

In recent years, a variety of assessment strategies have been described that assist the interventionist in developing and confirming a hypothesis regarding the social function of a challenging behavior. Generally, assessment strategies include: (a) interviews, (b) direct observations, and (c) environmental manipulations.

As the name implies, an interview is usually comprised of a series of questions or checklists that must be completed by an individual who is familiar with the learner and the challenging behaviors that the learner emits. The goal of the interview is to: (a) describe the challenging behavior(s), (b) identify when the challenging behavior is most likely to occur, and (c) identify the possible functions of the challenging behavior. Although beneficial in providing a quick and relatively easy way to begin to identify factors which may contribute to the emission of a challenging behavior, interviews are only as reliable as the observations of the informant.

In interviewing 20 professionals who work with children who engaged in challenging behavior, a remarkable 70% were unable to operationalize the possible functions served by the challenging behavior emitted by children that they served. For example, it is quite common for staff to report that challenging behavior is emitted because a learner is angry or upset. Although accurate, this level of analysis will not result in sufficiently operationalized functions of behavior to develop viable intervention strategies. When asked to generate a list of relevant information that they would need in order to determine the function of a behavior, the majority of participants identified exemplars of fewer than half of the areas addressed in Table 1 that were derived from the functional interview assessment (O'Neill et. al., 1991).

During direct observation, information is typically obtained regarding: (a) frequency of the behavior, (b) the antecedents that may influence the behavior (e.g., time of day, people present), (c) the place/setting in which the behavior occurs, and (d) the consequences of the behavior. Discovering when a challenging behavior is and is not occurring helps to identify the function as well as the factors that relate to the challenging behavior.

Reichle (1994), in delivering a workshop to 100 early childhood educators, asked how many participants regularly utilized A-B-C analysis or scatterplots in assessing the children with challenging behavior that they served. Less than 25% of the participants responded affirmatively. When asked how many knew what these analyses were, only 50% of the participants responded affirmatively.

Upon completion of interviews and direct observations, the function of a particular challenging behavior may be unclear because it has not been possible to determine which of several hypotheses is the most plausible

explanation for why a behavior is occurring. Environmental manipulations are a helpful means of testing the hypothesis that could not adequately be tested due to confounding conditions present in the milieu of the learner's regular routine. Implementing environmental manipulations involves altering particular antecedents or consequences believed to be associated with a child's emission of challenging behavior and then observing how these changes affect the child's challenging behavior.

In summary, carefully evaluating the function served by an existing repertoire of challenging behavior represents a critical activity. Unless the function(s) of challenging behavior are accurately identified, it will be impossible to design an individualized intervention program to establish functional alternatives that can successfully compete with the challenging repertoire.

#### Identifying Intervention Options Available to Address Socially Motivated Challenging Behavior

Because emissions of challenging behavior often represent the product of an interaction between the child and his environment (Carr, Taylor and Robinson, 1993), interventions can be directed at the child and/or his environment (including the behavior of the persons with whom the learner interacts). Given socially motivated challenging behavior, the initial decision that an interventionist must make is whether the function served by an individual's challenging behavior can be honored. An affirmative answer to this question suggests that there is potential feasibility in establishing a behavior in the child's repertoire that is functionally equivalent but socially more acceptable than their existing challenging behavior (Carr, 1977; Carr & Durand, 1985). On the other hand, if the function served by the learner's challenging behavior cannot be honored, the interventionist must consider intervention strategies that establish better self regulatory skills for the learner and/or greater tolerance or understanding from others in the learner's environment.

Interventions that establish responses that are functionally equivalent to challenging behavior. If a functionally equivalent replacement behavior is indicated, it is important that it be maximally efficient from the learner's perspective. Mace and Roberts (1993) have articulated, elegantly, four factors that may significantly influence the efficiency of any particular learner response in achieving a socially motivated outcome. Responses

are most efficient when they result in (a) the immediate delivery of reinforcement; (b) require reasonable response effort; (c) require a low rate of responding to achieve the desired outcome; and (d) result in qualitatively good outcomes. In order to develop responses that are both functionally equivalent and efficient requires precise understanding of the variables that influence the emission of challenging behavior.

In most instances, when the function served by the challenging behavior can be reinforced contingent on the emission of a more socially acceptable form of behavior, communication intervention is warranted. Even though there is a rich and growing literature emphasizing the importance of selecting the most efficient communicative alternative to challenging behavior, evidence suggests that educational professionals have virtually no experience in implementing strategies to choose and subsequently implement teaching procedures (Reichle & McEvoy, 1994). Appendix B provides examples of intervention strategies that might be implemented to establish a communicative alternative to escape/avoidance motivated challenging behavior.

Interventions that promote self-regulation when the function served by challenging behavior cannot be honored. Unfortunately, in some instances the function served by the learner's challenging behavior cannot be honored. For example, medication that helps prevent life-threatening medical emergencies cannot be escaped. In these situations, the interventionist's task is to better enable the child to engage in sufficient self-regulation that will allow at least partial participation in the absence of challenging behavior. Teaching self-regulatory skills to cope with situations where social functions of escape/avoidance or accessing attention and/or goods and services cannot be honored also requires an exacting understanding of the variables that surround challenging behavior. Descriptions of a number of interventions designed to enhance a child's propensity to continue to engage in an important but less preferred activity include environmental arrangement (reorganizing home/classroom to diminish provoking stimuli without creating disruptions or inconveniences for others), high probability request sequences, tolerance for delay, collaboration, and preferred item as a distractor. Appendix C provides several examples of these interventions that have been validated or partially validated for use when escape motivated challenging behavior can not be honored.

Finalizing and Providing Extended Training for a School Districts Technical Assistance Team Members

At the conclusion of the course, individuals who wish to apply to become members of their school district's technical assistance team are recruited. Having had significant course information, potential members of the technical assistance team have obtained a very clear idea of the orientation of and related activities that they would be expected to develop. Applications are submitted to a designated school district administrator. With the permission of the applicants, course instructors provide feedback to the administrator with respect to the applicants' grasp of course content, participativeness, and diligence in the course. To date, teams have been comprised of a minimum of three disciplines, including speech-language pathologists, special educator, early educator, paraprofessional, school psychologist, occupational or physical therapist.

Once the technical assistance team has mastered the information contained in the initial coursework, a more sophisticated regimen of training is implemented that involves weekly three-hour sessions over a period of approximately 20 weeks conducted on site at schools within the participating school district. The purpose of these sessions is for technical assistance team members to systematically apply the information that they have gleaned to actual cases in a case study format similar in scope and sequence to case example focused training described by Anderson et al. (1993).

During the initial phase of technical assistance, regular team meetings are held to elaborate on information regarding curriculum content and best practice instructional strategies originally presented in the course completed prior to the formulation of the technical assistance team. The bulk of instruction which occurs during extended training focuses on identifying professionals within a school district that are in need of technical assistance. The technical assistance team works collaboratively with university faculty and graduate students to systematically apply acquired knowledge and to expand the knowledge base of technical assistance team members. Over time, trainees play an increasingly greater role in the delivery of longitudinal on-site technical assistance. A chronology of extended training topics and brief descriptions of training activities are described in Table \_\_.

At this level of technical assistance, experienced doctoral students participate actively in the training. Students work side by side with team members in visiting classrooms, accumulating assessment data, formulating and troubleshooting intervention plans, presenting short inservices to eventual recipients of technical assistance. The close level of collaboration among technical assistance team members and advanced graduate students provides an opportunity to establish mutual respect and collegueship that serves to create an excellent future training environment for less experienced preservice students.

Once team members have a firm grasp on assessment and intervention strategies, a technical assistance team divides its time between 1) acting as a planning agent and independent implementer of district wide inservice activities to increase peers awareness and implementation knowledge of positive behavioral support strategies for individuals who engage in challenging behavior, and 2) delivering on-site classroom or home-specific technical assistance.

Significant time is required to establish an efficiently operating team of professionals to deliver on-site longitudinal technical assistance in addition to creating and implementing a systematic plan of coursework and continuing inservice for a school district. Consequently, for a school district to develop a comprehensive inservice and technical assistance capability requires a significant fiscal commitment. In preparing a technical assistance team, we have spent approximately 360 hours of training. Approximately 260 of these hours represent the direct involvement of highly trained doctoral students representing disciplines that include early childhood education, special education and speech-language pathology. The remainder of the effort represents the effort of regular university faculty of a highly trained masters level professional and a post-doctoral fellow.

We estimate that the cost of the project for the participating university is approximately \$15,000 in the initial year; approximately \$7,500 in the second year; approximately \$5,000 in the third year. Enabling each member of the technical assistance team to fully participate in team activity has required participating school districts a minimum of .25 FTE salary for each of a minimum of three professionals who serve on the team. Offsetting some of the costs incurred in implementing this program could occur by using the salary release. In

order to maximize the technical assistance team's effectiveness, creating a comprehensive plan of inservice to supplement on-site technical assistance is critical. This plan must address 1) staff attrition that will result in new staff who typically have limited experience in proactive approaches to serving children with challenging behavior, as well as 2) highly skilled staff who wish to refine their skills so that they will rarely need a consultation with a technical assistance team member.

#### Creating a Continuum of Training Within a School District

##### Providing a Menu of Inservice Options

Developing a comprehensive inservice plan requires a range of information dissemination options. Regardless of the level of inservice, adequate incentives must be offered so that staff see inservice and/or on-site technical assistance as an opportunity rather than an obligation. Consequently, a continuum of inservice activities that include awareness inservices, case study demonstrations, conducted at before-school or after-school interest meetings, half to whole day procedural inservices, district wide task forces, and university credit courses must be planned. Table 3 defines each of these levels and delineates involvement and benefit to both the university and public school community along with incentives to individual participants.

##### Providing Longitudinal On-site Technical Assistance

Although inservices such as those described in Table \_\_\_ represent important activities for a technical assistance team, they are not sufficient. Many inservice recipients require careful "on-site" shaping of their assessment and intervention skills to affect child change.

Doss and Reichle (1989) examined the outcome of technical assistance in which assessment and intervention strategies were constructed at regularly occurring meetings outside of the actual site of implementation with participants who were licensed as skilled behavior analysts in the state of Minnesota. Assessment and intervention decisions were based on data brought to the meetings by staff. Meetings were held once every two weeks. Approximately 40% of the children that were the focus of the consultations made progress, as demonstrated by dependent measures on challenging behavior deceleration as well as data on replacement skill

acquisition. As the inservice project progressed, an increasing portion of technical assistance requests were directed at serving children that were improving while progressively less time was spent on children with whom the program was not being successful. When asked to spend a greater proportion of meeting time discussing children who were less successful interventionists often reported that the behavior of the learner in question was no longer really a problem.

Throughout the delivery of technical assistance, observers were regularly "on site" to observe the implementation of intervention procedures and social interactions between staff and clients. As a result of a summary of these data, it became clear that children with whom interventionists made the least progress were those that (1) interventionists spent the least discretionary time with prior to the initiation of technical assistance, (2) made no immediate progress when technical assistance programs were implemented, and/or (3) exhibited more severe aggression directed at staff.

Subsequently, technical assistance was delivered on-site twice weekly. During these sessions, the technical assistance provider worked directly with staff to coach them in implementing intervention procedures. Over approximately a six-month period, staff participation was shaped. Without the capability of presenting direct and regular on-site feedback, we are doubtful that many of the professionals with whom we worked would have reliably implemented. At the crux of delivering effective technical assistance are dependent measures that allow careful scrutiny and revision of technical assistance strategies that may be needed.

#### Evaluating and Troubleshooting Problems That Arise in Implementing "On-Site" Technical Assistance

Traditionally, technical assistance activities are evaluated modestly, even though evaluation activities are very critical for several reasons. First, if effective troubleshooting activities are to be put in place when a desired outcome is not achieved, technical assistance providers must be prepared to systematically analyze why the desired educational or social outcome is not being achieved. Secondly, a technical assistance team must be placed in a position to demonstrate the value of technical assistance to justify expenses associated with maintaining a technical assistance team as a recurring budget item. The most probable evaluation component

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consists of a consumer satisfaction survey. Unfortunately, consumer satisfaction survey results may not be strongly correlated with a recipient's knowledge gained or ability to implement information provided. More objective data are available to evaluate the effectiveness of inservice or technical assistance tend to involve the utilization of learner change data.

Objective data used to evaluate the successfulness of technical assistance often focuses on decreased rates, intensity, or duration of the challenging behavior. Although decelerations of any problem behavior are desirable, these data are less impressive unless, at the same time, engagement in desired social or educative activities is improving. Consequently, dependent measures need to focus on minimally two sets of dependent measures (challenging behavior and positive alternative engagements).

More recently, investigators have turned to issues of social validity. That is, even though child change can be empirically demonstrated, it will have little overall impact if those who spend significant time around the child cannot notice significant change in behavior. Consequently, individuals who regularly come in contact with learners/professionals being served through technical assistance need to provide their perception of the learner's ability to function in the setting(s) that are the focus of intervention activities.

One aspect of child change data that is frequently overlooked involves measures of procedural reliability. That is, if an interventionist has assisted in designing an intervention plan, can he/she implement it reliably. Without longitudinal and direct contact with the individual implementing technical assistance, procedural reliability is rarely scrutinized. Considering the reliability of the implementation assessment and intervention procedures seems particularly important given recent empirical results suggesting that procedures to establish instructional objectives are often either not implemented or implemented incorrectly (Reichle et al., 1994). Procedural reliability taken in the presence of a technical assistance provider may provide little insight into the rigor or regularity with which an intervention strategy is actually implemented in the absence of the technical assistance provider.

Some intervention strategies may involve altering the interactional strategies used by the recipient of the

technical assistance. For example, offering choices to clients has been well documented as an effective strategy with individuals who engage in escape motivated challenging behavior (Dunlap et al., 1994, and numerous others). However, this strategy involves changes in the behavior of those who directly interact with the child. If a procedure such as choicemaking is not being implemented, it may be difficult to determine whether the problem is procedural or alternatively that the interventionist is not willing to alter their interactional style. We believe that it is not sufficient to know that an interventionist is not successfully implementing; additional steps must be taken to find out why successful implementation may not be occurring.

Some interventionists may not be willing to implement an intervention procedure that permits a child to escape an undesired activity contingent on the emission of a more socially acceptable communicative alternative. In the same situation, other staff may have difficulty shortening the length of a work activity so that a history of releasing a child prior to engagement in socially unacceptable behavior to gain release. In each of these instances, the interventionist simply may not accept the loss of instructional control inherent in each strategy. Technical assistance providers must take great care to work collaboratively with the team serving the learner to lay the necessary rationale for any intervention strategies offered. All team members must feel comfortable implementing intervention strategies before they are put in place.

We believe that the key to establishing reliable and fluent implementation of instructional programs requires that the technical assistance provider (1) determine that intervention strategies recommended are commensurate with the teaching style and beliefs of the implementers and the learner's family, and (2) ensure that the technical assistance recipients are willing to implement with necessary rigor and fluency.

Enabling technical assistance recipients to fluently participate in implementing behavioral support strategies.

Even when there appears to be philosophical agreement regarding the intervention procedure to be implemented, technical assistance recipients may fail to take advantage of a sufficient proportion of available intervention opportunities. At this point the focus of the technical assistance should focus on dependent measures that evaluate the willingness and competence of the technical assistance recipient. That is, if they can't successfully

implement a procedure, it will do little good to rely on child performance data to make program troubleshooting decisions.

At the most minimal level, we are interested in whether we can establish regularly occurring contact with the technical assistance recipient. These contacts may be used simply to obtain information about child likes, dislikes, and reports of instances of challenging behavior. Care is taken to keep track of who initiated these contacts. We believe that if set up to obtain information deemed valuable by both the recipient and deliverer of technical assistance, a history of participation can be scrutinized. A viable objective for a technical assistance provider may be to establish a greater level of initiation of contact by the technical assistance recipient.

#### Strategies to Better Develop Collaboration Between Public Schools and Universities in Providing Collaborative Training

There is a propensity for university tradition and administrative bureaucracy to either actively discourage the coordination of these activities or to offer no incentives to encourage greater collaborative coordination of preservice and inservice training. We believe that there are a number of strategies that universities could pursue to take advantage of collaborative relationships that have been established during the implementation of a rigorous plan of inservice and technical assistance. Some of these activities are discussed briefly.

Cost share practicum supervision. To a significant extent, university training programs follow one of two strategies to supervise graduate and undergraduate trainees in student teaching and practica activities. In one model, the university depends almost exclusively on the goodwill of professionals in the field to accept student trainees. This model requires significant volunteerism on the part of the receiving professional. Even when the professional is diligent and highly motivated, there is no mechanism to ensure the integration of preservice coursework with practicum activities, since the supervising professional may not have matriculated through the students' training program. Correspondingly, there may be limited incentive for the supervising professional to participate in preservice coursework to ensure that there is a common background across supervisor and trainee.

In an alternative model, the university training program provides the practicum supervision via one of "their

own" staff. In an applied setting, this option has the potential advantage of providing feedback continuity across preservice coursework and implementation of that information in practicum settings. On the other hand, this model presents a very inefficient and potentially awkward method of supervision. It places the student in a position to receive feedback from on-site staff, as well as from the university supervisor. When feedback is inconsistent across these two sources, all parties are placed in an awkward situation. Additionally, this model of supervision is very duplicative in terms of resource deployment by assigning both a "community based" and a "university based" supervisor to any given practicum student.

We believe that it should be possible to provide adequate incentives to public school professionals to ensure that they have a base of information that is consistent with the students that they supervise. Further, it should be possible to provide adequate incentives to ensure a more intensive co-participation by public school professionals in the mentoring of graduate level preservice students.

One strategy to create an incentive for better coordination between universities and public schools involves the two working directly to coordinate state Department of Education continuing education requirements with local service providers' criteria for merit salary increases. For example, the State of Minnesota requires that all educational professionals take continuing education courses in order to maintain licensure. In addition, professionals (teachers, psychologists, speech language pathologists, etc.) working in public schools can use university credits in a field related to their professional degree for a salary "bump." However, in order to accrue this credit, the professional (rather than the service provider) must pay for the university credit rather than the service provider for whom they work. We believe that one viable option for university training programs is to offer tuition vouchers to supervising professionals. Although an empirical question, we believe that this strategy should result in sufficient incentive to ensure that supervisors share common content information with students that they might be called upon to supervise.

Sharing a common content base is important but represents only an initial step in truly collaborative inservice/preservice coordination. To continue collaboration, we believe that participating public school

professionals must assume a mentoring role to bridge preservice course information with practicum experiences. However, this must be a shared responsibility between school professionals and university personnel. This means that university personnel who teach method-related coursework should spend a significant portion of their effort at community training sites. Time spent should encompass the provision of technical assistance and collegial support to establish commonality between methods taught in coursework and those practiced in practicum settings. Further, we believe that selected public school professionals who collaborate in preservice training activities should serve as reimbursed consultants to the preservice training program. It is unrealistic to assume that this participation in training activities that go significantly beyond regular employment requirements should represent a totally voluntary activity. Potential recurring funding mechanisms for public school professionals as consultants and providing tuition stipends include (a) redistributing monies currently allocated to practicum supervision; and (b) generating focused continuing education activities that generate income.

Redistributing money currently allocated within a university for practicum supervision could be reallocated to designated public school mentors. For example, the university might cost share positions with a school district in return for the school district guaranteeing a specified amount of supervision. In some training programs, practicum supervisory budget is not directly tied to a particular individual and instead functions as a funding mechanism for advanced degree (doctoral) students (to supervise practica). However, in the long run, we believe that the effort would be worthwhile. Depending universally on preservice leadership students to supervise does little to coordinate preservice and inservice activities.

Offer focused "method" coursework in public school settings. To this point in our discussion, we have discussed community-based coursework in terms of its educational value. However, an additional outcome of this activity could be the generation of recurring funds to provide a financial incentive for community mentors by utilizing funds derived through the development of continuing education course offerings. At the University of Minnesota, enrollments in coursework offered through continuing education, 57% of the enrollment fee is returned directly to the department offering the coursework. For example, a three-credit course with an

enrollment of 20 results in departmental income. Offering a plan of applied coursework aimed at both preservice and practicing professionals could easily generate substantial income (if university faculty view these courses as part of their regular teaching load and do not expect additional financial remuneration for teaching these courses) to provide financial incentives to school districts or professionals within the school districts who wish to collaborate with universities in preservice training activities.

Create curriculum advisory board consisting of community professionals and consumers. Preservice training programs must reference their personnel preparation activities to the criteria of the needs of consumers and service agencies that will employ graduates. The university, through coursework and collaboration, has an opportunity to influence those criteria. Equally important is the opportunity for university preservice programs to be influenced by the experience and views of service providers. Establishing a curriculum advisory board represents an opportunity to obtain this information in a regular and systematically organized fashion. Parents and consumers represent a critical validating component in designing any educational activity. Planned educational activities should have a significant positive impact on consumers and their families. Professionals must seek out the collaboration of those whom they serve and work jointly to improve service delivery.

The inclusive service delivery in which professionals are mandated to work and to which parents entrust their children represent a vastly different educational environment from those available as recently as ten years ago. In spite of tremendous advances, many teachers and related personnel openly voice concern about their ability to serve children with challenging behavior. Ironically, a significant methodological expertise exists to serve these children. Further, methodological advances will be compromised unless we are able to begin to benefit from them by infusing them into the service delivery system. This infusion will require a major and joint effort by researchers, personnel preparers, public school professionals, and parents working together.

#### SUMMARY

Anderson et al. (1993) concluded that "inservice training by itself is not sufficient to ensure accomplishing all of the outcomes desired for effective education and support systems for people with developmental

disabilities. . ." (p. 363). We share their orientation that comprehensive training must be useful to a wide variety of professionals and families. Further, we believe that it is impossible to divorce inservice training needs from preservice training needs. Unattended preservice needs later become inservice and technical assistance needs.

We believe that when preservice students and public school professionals are well trained and actively collaborate with families, they will have a far greater probability of positively impacting the lives of persons with challenging behavior. Coordinating efforts to improve preservice and inservice training involves a number of levels of partnerships. Public school administrators and university personnel must become partners in planning the system that will support coordinated training. University professionals must develop mutually beneficial collaborations with public school professionals and parents. University pre-service students must develop collaborative relationships with university faculty and public school mentors.

**EPSY 5900: Proactive Approaches to Managing  
Challenging Behaviors in Young Children**

**Meeting Time / Place :** Staff Development Center  
Feb 3-10 Sherwood Cleveland West  
Feb 17- March 31 George Petty Room  
Weds. from 3:45 pm to 5:45 pm  
(Note: there will be no class on Feb. 24 due to IEP's)

**Instructors:**

Susan Johnston, MA, SLP-CCC  
Doctoral Candidate, Communication Disorders  
Phone: 624-2380

Kathleen Feeley, MS  
Doctoral Candidate, Educational Psychology  
Phone: 624-2380

**Purpose of the Course:** The purpose of this course is to discuss positive treatment alternatives for individuals who engage in challenging behavior. A large segment of the course will address; a) intervention strategies aimed at replacing challenging behavior with communicative alternatives, and b) organizing classrooms to decrease the probability of the occurrence of challenging behaviors while at the same time facilitating social interactions.

**Format of the Course:** Each week, approximately 60 minutes will be devoted to the presentation of assessment and intervention strategies. The remaining 45 minutes will be spent actively applying the information in group activities.

**Course Objectives:**

1. To familiarize students with the range of assessment strategies that may be used to determine the function of challenging behavior
2. To familiarize students with the range of positive treatment strategies for individuals who engage in challenging behavior (e.g. behavioral momentum, communicative replacement, environment rearrangement)
3. To familiarize students with ways to modify treatment strategies for individuals who have severe communication deficits.

**Student Responsibilities in this Course:**

**Required Readings:** Readings will be assigned relative to each topic. You should complete the readings prior to the class session in which they will be discussed. The text (Durand, 1990) is available at the University of Minnesota Bookstore (Williamson Hall). All additional readings will be distributed in class.

**Functional Assessment:** Students will be required to complete a functional assessment of problem behaviors and summarize the results of this assessment. Interview, Direct Observation, and Summary forms will be provided.

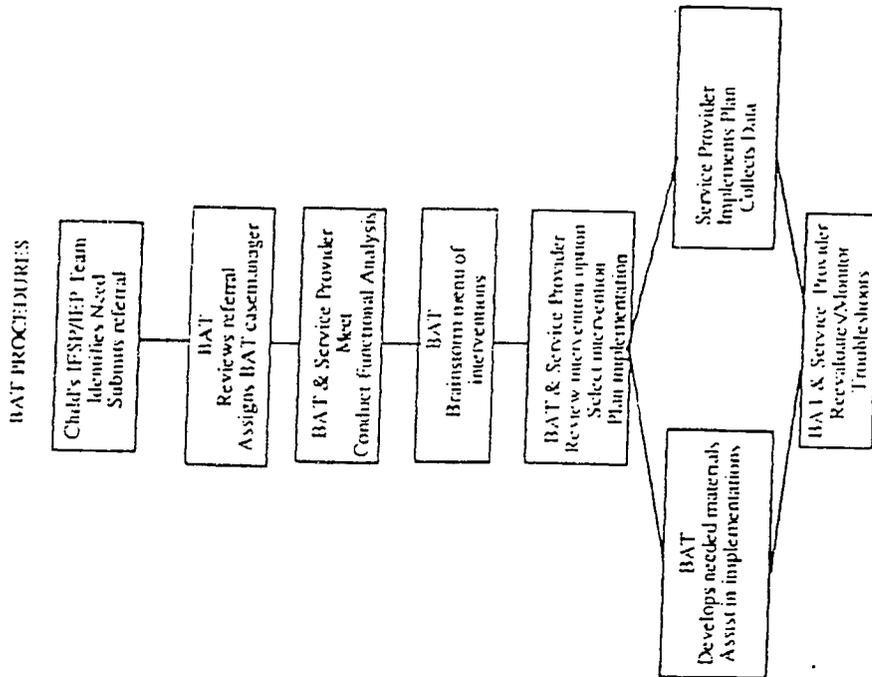
**Intervention Plan:** An intervention plan based on the results of the functional assessment of problem behaviors will be developed. This plan will draw from the intervention methods presented in class. Forms for completing the intervention plan will be provided.

**Grades:** Each assignment is worth a total of ten points. Ten points will be awarded if the assignment is satisfactorily completed and handed in on time.

**BOARD OF  
EDUCATION  
ANOKA HENNEPIN  
SCHOOLS**

**Behavior  
Assistance  
Team**

**ADMINISTRATION**



**The Behavior Assistance Team** provides technical assistance and support to staff and parents in developing proactive interventions for children exhibiting challenging behavior.

**The Behavior Assistance Team** was formed in 1992 as a part of the Developing and Evaluating a Model of Inservice and Technical Assistance to Prevent Challenging Behavior in Preschool Children, funded in part by U.S. Department of Education. The project is a collaborative effort of the Anoka Hennepin Schools and the University of Minnesota.

**Who is on the team?**

BAT is made up of two speech and language clinicians, one occupational therapist, a behavior analyst, a special education teacher, and a paraprofessional.

**What does BAT do?**

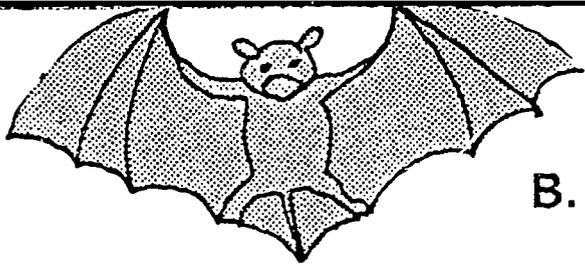
- Conduct functional analysis of the behavior(s) of concern
- Develop proactive interventions
- Assist staff in developing materials
- Provide follow-up and troubleshoots once the intervention is in place
- Maintain a resource library of materials regarding challenging behavior
- Provide inservice training to district staff

**Who may access BAT:**

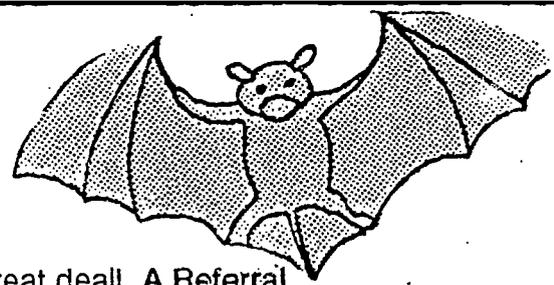
Any child with challenging behavior, regardless of the child's cognitive function may be referred to BAT through the IEP/IFSP process. Teachers, parents, support staff and all members of the IEP/IFSP team are integral parts of the assessment/intervention process.

**What do we mean by Challenging Behavior?**

**Challenging behavior** is defined as "behavior emitted by a learner that results in self-injury or injury to others, causes damage to the physical environment, interferes with the acquisition of new skills and/or socially isolates the learner" (Doss & Reichle, 1991).



## B. A. T. NEWS



Notes from our two days of work! We accomplished a great deal! A Referral process was developed as well as a referral form. In addition, the inservice for September 2 was planned.

Other important notes:

1. The team was named-Behavior Assistance Team-B. A. T.
2. Weekly meeting will occur on Tuesdays, 3:30 to 5:30, at least thru the first quarter.  
Tuesday September 1 will be the first meeting. B. A. T. will not meet Tuesday, Sept. 8, as that is Open House. The regular meeting schedule will resume Tuesday September 15.
3. B. A. T. case managers will be assigned by team consensus. Once assigned, case managers will observe child in setting, conduct interviews as needed, complete functional analysis. The B. A. T. case manager will present information gathered to team, suggest intervention options. The B. A. T. team members will brainstorm, suggest, affirm ideas. Once the intervention option (s) have been decided on by B. A. T. the case manager will go to contact person in setting and explain/discuss options. At this time the case manager and contact person will negotiate/agree on level of assistance, including commitment to follow-up/troubleshoot-e.g. for 4 weeks, extended as necessary.  
If there is a problem with the case, B. A. T. case manager will bring back to B. A. T. if need assistance with problem(s).
4. Every team member will have one half day release time, and 2 hours extended contract. B. A. T. may renegotiate extended hours for second quarter if indicated.
5. EIP/Homebased  
Questions were raised as to how the referral process/B. A. T. procedures will work within this program. Options for assessment interviews/planning intervention:  
Option 1: Do during regularly scheduled visit in tandem with service provider.  
Option 2: Do at a different time than regular visit.  
A suggestion was made that the U of M assistant support could be utilized in these situations for assessment/interviewing, etc.  
Regarding Behavior Outcome page of IFSP-if one is in place, does not need to be added. If not, add a page with Behavior Outcome.
6. A suggestion was made that the team members keep a log of informal contacts, e.g. name of person, problem presented, resource/information given, etc.

7. A decision was made regarding the role/responsibilities of the team leader. Team leader will be Beth Dorsey.
  - Referrals will be submitted to Beth.
  - Beth will set agenda for weekly meetings, if you need update on a case or have an agenda item let Beth know.
  - Beth will keep meeting notes.
  - Beth will keep track of case updates.
  
8. B. A. T. Resource Library
  - A list of publications/professional journals will be generated, a couple selected for ordering. Keep a file of articles and other resources.
  
9. Equipment
  - Mary and Diane will research video equipment to be ordered.
  
10. The Inservice September 2 for all Early Ed Staff was planned-we will walk through the presentation on September 1.
  - Elisabeth will bring handouts which include: B. A. T. mission statement/philosophy, Referral procedures, Referral forms.

## Overview of the Technical Assistance Model

Educational services for young children with disabilities have expanded rapidly within the past few years. Currently preschoolers with disabilities receive early intervention services in a variety of settings, including their family homes, day care centers, and center-based preschool programs. Many early childhood programs demonstrate a commitment to providing services in integrated settings in which young children with disabilities can interact with typically developing peers. However, school districts often experience difficulties when they attempt to serve youngsters who exhibit challenging behavior in regular settings. Often, personnel in these settings do not have adequate training for addressing these problem behaviors. Even within center-based programs, staff may feel ill-equipped to develop interventions plans to address student's challenging behaviors. School district administrators are beginning to recognize that in order to serve young children with challenging behaviors, educators need knowledge of effective intervention strategies, guidance in the development of programs to address challenging behaviors, and on going technical assistance to interdisciplinary teams.

### **I. What is the goal of the model?**

The goal of the Technical Assistance Project Model is to assist school districts in the development of transdisciplinary technical assistance teams that are able to provide a continuum of assistance to educators in the treatment and prevention of challenging behavior of young children. The technical assistance model will increase the internal capacity of school districts to address the challenging behaviors of preschoolers, thereby promoting and preserving placements in the least restrictive settings.

Developing and Evaluating a Model of Inservice and Technical Assistance to Prevent Challenging Behavior in Preschoolers, Grant # HO24P10017.

## II. What are assumptions on which the model is based?

- 1) Many school districts are interested in improving services in least restrictive environments for young children with emotional/behavioral problems.
- 2) Training materials must clearly communicate precise strategies and best practices for designing, implementing, and evaluating interventions designed for children with challenging behavior and should be disseminated throughout the district.
- 3) District personnel can be trained to serve on Behavioral Technical Assistance teams to assist with the implementation of the best practices procedures introduced in intensive inservice training workshops. The design of the project places primary emphasis on five validated best practices for working with young children with emotional/behavioral difficulties. These include:
  - a) organizing environments to prevent behavior problems
  - b) conducting a functional analysis of the communicative intent of the behavior problems
  - c) Designing effective behavioral interventions which involve identifying antecedents and consequences
  - d) Training social and communication skills
  - e) Working together with families and related personnel

### III. How does one go about establishing a transdisciplinary technical assistance team?

#### 1. What is a Transdisciplinary Model?

A transdisciplinary model is an example of an integrated therapy model. Professionals from multiple disciplines collaborate to develop a plan for a learner's assessment, instruction, and evaluation. Each professional incorporates his or her area of expertise within jointly developed learner goals. There are two major components of this model: 1) indirect therapy, and 2) role release.

Indirect therapy - In this design, educational and therapeutic techniques are incorporated throughout the child's day. For example, using this approach, a communication specialist would introduce an intervention program to all who are in direct daily contact with the student. In this example, the intervention is to teach a child to point to a graphic symbol to request juice. While the communication specialist may implement the program only at snacktime, the teacher would implement during lunch, and the child's parents during after-school snack and meal times. The indirect model provides the child with many more opportunities to practice a skill than exists when a particular professional is the only person implementing the program. An additional benefit is that it exposes the learner to various instructors and multiple locations, thus increasing the probability of more rapid acquisition and generalization across environments and people.

Role release - This involves the interchange of roles and responsibilities between team members representing various disciplines. The process begins with a team member of one discipline sharing information and teaching another team member(s) specific skills for program implementation. For example, an occupational therapist might teach a speech therapist to place a child in an

Developing and Evaluating a Model of Inservice and Technical Assistance to Prevent Challenging Behavior in Preschoolers, Grant # HO24P10017.

insert, to ensure proper body alignment, while implementing a program to teach the child to self-feed. The occupational therapist would be responsible for regularly monitoring the speech therapist's implementation of the program as well as to review the child's progress.

**2. Who should serve on the Technical Assistance Team?**

Technical Assistance teams should be composed of school district staff representing a variety of different disciplines with a broad range of expertise. This helps ensure that a child's individual needs are addressed across curricular domains in school, home, and community environments. The makeup of the team should be determined primarily by the needs of the early childhood population. Potential members may include:

1. an early childhood special education teacher
2. a speech/language therapist
3. a physical therapist
4. a school psychologist/behavior analyst
5. an early childhood regular education teacher
6. a school social worker
7. an occupational therapist
8. an experienced classroom paraprofessional

\*NOTE: Parents are included in all phases of planning and implementation.

**3. How are professionals selected to be members of the district's Technical Assistance team?**

Administrators and project personnel work together to organize an on-site 2-credit, 10 week graduate level course. This course may be used to meet

state inservice requirements and participants may apply credit toward professional lane change. Interested professionals should then:

1. Participate in the graduate level course (taught by personnel trained in this model).
2. Apply or notify district administrators of their interest in further participation in the model as a team member (Method of application is left to the discretion of the individual district).
3. Administration makes the final selection of the team members after consulting the course instructor(s).

**4. What are characteristics of potential Technical Assistance Team members?**

- ∞ Are respected members of their respective professional disciplines.
- ∞ Have extensive experience working with children, both with and without developmental disabilities in educational settings.
- ∞ Possess experience as team leaders and participants with the educational process.
- ∞ Demonstrate the ability to provide technical assistance to other professionals and/or parents.
- ∞ Exhibit respect for data-based instruction and decision making.
- ∞ Exhibit a commitment to inclusive education.
- ∞ Exhibit a commitment to a transdisciplinary model for providing services in inclusive school and community settings.

Developing and Evaluating a Model of Inservice and Technical Assistance to Prevent Challenging Behavior in Preschoolers, Grant # HO24P10017.

**IV. Additional training of members of the Technical Assistance Team**

**1. How will the Technical Assistance team receive additional training in assessment, intervention, and monitoring procedures?**

Once the technical assistance team has mastered the information contained in the initial coursework, a more sophisticated regimen of training is implemented. This training involves weekly 3-hour sessions over a period of approximately 20 weeks conducted on-site at schools within the participating school district. The technical assistance team works collaboratively with project personnel to systematically apply acquired knowledge and to expand the knowledge base of technical assistance systematically apply acquired knowledge and to expand the knowledge base of technical assistance team members. A chronology of extended training topics and brief descriptions of training activities are described in Table 1.

**2. What Competencies will the Team Acquire Through the Site-Based Training?**

As the technical assistance team members acquire a common base of programmatic interventions for preschoolers, they begin to collaborate and function as a team in designing and implementing positive programs for preschoolers exhibiting severe challenging behaviors. The team utilizes each member's specific skill domains as best benefits each child. At the completion of inservice training, team members will be able to:

- a. Conduct functional analyses of behavior including: interviews, observations, and environmental manipulations.

- b. Recognize when it is necessary to refer a learner for medical evaluation of conditions that may contribute to or serve as setting events for challenging behavior.
- c. Demonstrate skills necessary for arranging environmental modifications that will minimize emissions of challenging behaviors.
- d. Develop proactive strategies, including communication interventions, that will help establish socially acceptable alternatives to socially motivated challenging behavior as well as promoting positive social interactions.
- e. Collaborate with school staff and parents to ensure that proactive intervention procedures corresponding to needs identified via a functional analysis are successfully implemented.
- f. Develop strategies to monitor learner change and implement troubleshoots when the need arises.
- g. Develop strategies to monitor the technical assistance team's effectiveness within the school district.

### **3. What are the expectations of the team members?**

It is important that Technical Assistance team members have a clear understanding of the model's goals, including what is expected of the team. This prevents misunderstandings and allows the team to have an overall understanding of the model and to know what to expect as their team develops. Therefore, each individual on the team will:

- a. become skilled at implementing the functional assessment procedures by gaining knowledge and experience in the use of the O'Neill et al. assessment process.
- b. develop positive interventions based on functional assessment addressing challenging behaviors in preschoolers for the management of challenging behaviors.
- c. provide technical assistance to the staff who directly serve learners who engage in challenging behaviors. Team members will assist the staff in the observation, collection, analysis of the data.
- d. set up a system for the storage of student information including: interviews, observations and intervention data, in an organized fashion for each child who is served by the team.
- e. develop and provide inservice training to the staff who directly serve children with challenging behavior through:
  - IFSP/IEP meetings
  - traditional inservices
  - a graduate level course "Proactive Interventions for Managing Challenging Behavior in Young Children" offered within the district and taught by the Technical Assistance team in collaboration with a local university.
- f. set up and run a materials resource center for district staff.
- g. closely monitor learner progress.
- h. closely monitor the technical assistance project.

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**V. What types of activities will the Technical Assistance team perform?**

The T.A. team will organize a range of information dissemination opportunities for both professionals and paraprofessionals within their district. A continuum of inservice activities that include awareness inservices, case study demonstrations, conducted at before-school or after-school interest meetings, half to whole day procedural inservices, district-wide task forces and university credit courses are planned. The following information defines each of these levels and delineates involvement and benefit to both the project staff and the public school community, along with incentives to individual participants.

- 1) Awareness Inservices - These inservices will provide a brief overview of topics including specific content areas (e.g., importance of conducting functional assessments, environmental arrangements, communicative replacement) and the technical assistance process and how to access the team members.
- 2) Case Study Demonstrations - Specific learners' program tracking information (including assessment, intervention and troubleshooting strategies) are presented.
- 3) Half to Whole Day Procedures Inservices - A significant amount of time is dedicated to elaborating upon a specific content area. The content area is chosen based upon the individual needs of the site. For example, three preschool teachers and their staff are interested in arranging their classrooms in order to Prevent the occurrence of challenging behaviors. Lectures, discussions, and interactive computer software is then used to convey this information.

- 4) District Wide Task Forces - Task forces are developed in order to meet specific needs of district personnel. District administrators, along with team members and professionals from the district, come together to determine areas that warrant a task force. For example, if an inclusion program is just being initiated in the school district, the team members can be of service throughout the district in order to help facilitate the students' and staff's transition.
  
- 5) University Credit Courses - Team members offer a course addressing proactive strategies for managing challenging behavior that can be taken for university credit.

Table 1. Chronology of extended training topics and a description of training activities.

Extended Training Topics	Training Activities
<p>I. Working Collaboratively Within an Interdisciplinary team</p>	<ul style="list-style-type: none"> <li>• Team members participate in a number of exercises to build their teaming skills. For example, the team members engage in role playing exercises, working through hypothetical situations that they may encounter while working within a team model (e.g., conflicts between members, challenges presented by professionals outside of the team, etc.).</li> <li>• Team members are introduced to the importance of identifying roles to be fulfilled by the team members, and independently assign roles to individual team members.</li> <li>• Team members assess their teaming skills on an ongoing basis, by evaluating their performance at team meetings.</li> </ul>
<p>II. Development of Operating Procedures</p>	<ul style="list-style-type: none"> <li>• Provided with guidance from university staff, team members develop a set of operating procedures used to ensure that technical assistance activities are conducted in an organized manner that is consistent with district policy. For example, procedures and corresponding forms are developed and approved by district administrators that address the referral process, parental notification and consent, as well as video tape permission.</li> </ul>
<p>III. Introduction of program Tracking Procedures</p>	<ul style="list-style-type: none"> <li>• Procedures for implementation of technical assistance activities have been established, and are presented to the technical assistance team members. Each task to be performed by the technical assistance team (e.g., interview process, direct observation process, presenting assessment information to team members, etc.) is broken down into a step by step format and is presented in chronological order to the team members.</li> </ul>
<p>IV. Introduction of Technical Assistance Recipient Monitoring Procedures</p>	<ul style="list-style-type: none"> <li>• In addition to monitoring learner change, the technical assistance team members are responsible for monitoring the extent to which the technical assistance recipient participates in the technical assistance process. Team members are introduced to a number of dependent variables which are to be carefully monitored throughout the technical assistance process. The team members then develop a means of collecting information directly related to these variables. For example, a rating scale may be developed and used to evaluate the technical assistance recipient's ability to generalize information and troubleshoot interventions and their willingness to follow through with requests and carefully document learner performance.</li> </ul>
<p>V. Case Studies</p>	<ul style="list-style-type: none"> <li>• Each team member identifies a learner who exhibits challenging behavior, and whose IEP team desires technical assistance.</li> <li>• One team member at a time, then works through all of the Operating Procedures, Program Tracking Procedures and the Technical Assistance Recipient Monitoring Procedures with university personnel providing support throughout each case study.</li> </ul>

**Medical Conditions****I. Why is it important to rule out existing medical conditions before implementing a behavioral intervention plan?**

Many learners who do not have the ability to communicate will exhibit challenging behaviors (self-injurious and/or aggressive). In some instances these behaviors may occur in response to a medical problem that the learner may be having. Often times staff will interpret these behaviors as "problem" behaviors and will respond by making referrals for tranquilizing medication or psychological services, including behavioral intervention programming. When a referral has been made to the behavioral intervention team, it is of utmost importance that the team rule out the existence of any medical conditions, before behavioral programming is implemented. Implementation of behavioral programs, prior to ruling out medical conditions, might mask medical etiology. (Gunsett, Mulick, Fernald, and Martin, 1989).

**II. How can medical problems/conditions be identified?****A. Medical examination**

Prior to the implementation of behavioral intervention programs, the learner should be examined by a physician. A complete medical evaluation is conducted in order to rule out the possibility of existing medical conditions.

**B. Observation by Primary Caregivers**

Observations by primary caregivers, play an important role in the identification of medical conditions as the cause of challenging behaviors. In cases where the medical condition occurs intermittently, i.e., hayfever, otitis media, caregiver's observations can be used to inform staff that the learner is experiencing discomfort. A system should be established between school personnel and the caregiver where information can be transferred daily, for example a notebook with daily entries or telephone conferences.

**III. What are the Medical problems/conditions that may be associated with challenging behavior?****A. Medical Problems**

There are a number of medical problems that are associated with challenging behaviors. These problems can be either chronic (long lasting) or occur intermittently. They can be the result of side effects of medications, an inappropriate diet, or their etiology could be unknown.

**1. Allergies**

An allergy is an overreaction of the immune system to an ordinarily harmless substance. An allergic reaction can entail skin rashes, intestinal upsets, sneezing or wheezing. Hay fever, eczema and asthma

are common allergic reactions. Learners who suffer from allergies may experience physical discomfort and irritability.

2. Constipation

Constipation is a condition in which the stools are excessively hard and passage is infrequent and difficult. It sometimes leads to abdominal and/or rectal pain. In addition to being associated with a number of medications, constipation can be caused by an improper diet. Learners who have either chronic or intermittent bowel problems, may become irritable due to the physical discomfort.

3. Urinary tract infections

Urinary tract infections are a result of bacterial growth in the urine. Symptoms include burning in urination, frequent urination and pain in the lower abdomen. In addition to experiencing physical discomfort a learner who has a urinary tract infection might continuously request the use of a toilet.

4. Otitis media

Otitis media is the medical term for middle ear infection that is most common in very young children. Most children who have otitis media display signs of irritability or experience high temperatures and most children who have otitis media will frequently pull at their ears. (Batshaw & Perret, 1987).

5. Insomnia

Insomnia is a sleep disorder that entails any one or more of the following: difficulty in falling asleep, difficulty in staying asleep or early waking. Some medications can cause a learner to experience insomnia. It can also be due to an excessive amount of stress. Learners who suffer from insomnia may show signs of irritability or fatigue during the day.

6. Indigestion

Indigestion is an abnormality in digesting food. Symptoms include belching, stomach pains, an acidic taste in the mouth and sometimes nausea. Indigestion can be caused by some medications and can be associated with irregular meals and eating unfamiliar foods.

**Example**

Brian is a four-year-old boy attending an early childhood education program. Ordinarily a joyful and friendly boy, over the past few days his teacher has noticed a significant change in his behavior. He no longer initiates interactions with his peers, and when approached by them he engages in aggressive behavior (i.e., hitting and screaming). On many occasions during the day, staff has reported that Brian has

wandered from the group to find a quiet place in the classroom. While there, he has curled up on the floor and began pulling on his left ear.

Concerned with the change in Brian's behavior, his teacher first contacted Brian's parents. They too, had noticed a significant change in his behavior. They commented that Brian was not feeling well lately and had had a temperature two nights that week. The teacher then brought Brian to be examined by the school nurse. When the nurse heard that Brian had been tugging on his left ear and also had fevers recently, she immediately checked his ears. While Brian became very upset when she examined his left ear the nurse noticed that the his ear drum was red. She immediately contacted Brian's parents to inform them that she thought Brian might have a middle ear infection and should be examined by his pediatrician.

Brian's parents brought him to the doctor that afternoon. The doctor prescribed medication and within two days Brian was back to his joyful, friendly self.

## B. Medication and its implications

Many learners who engage in challenging behaviors, take some type of medication. These medications may be taken for conditions unrelated to their behavior problem such as otitis media or asthma. Medications may also be taken to alleviate such conditions as epileptic seizures, spasticity, or hyperactivity, that may be symptoms of an underlying disorder (i.e., cerebral palsy) (Holvoet & Helmsetter, 1989). Medications may also be taken for conditions directly related to a child's behavior problems. For example, a mild sedative might be prescribed for a learner who engages in an excessive amount of aggressive behavior.

These medications are often associated with a number of side effects. Some side effects, such as irritability, excessive appetite, dry mouth or hyperactivity may be directly related to the learner's engagement in problem behaviors. For example, a learner who is prescribed Phenobarbital for a seizure disorder, may become extremely active soon after the administration of the medication. S/he may not listen to directions and become quickly bored with activities which require little movement. Other medications may cause constipation, stomach cramps, or headaches. A learner who is unable to express his/her discomfort may respond to the discomfort by engaging in challenging behaviors.

Tables 1-3 provide the names (both the trade and the generic name) of common medications taken by children, the possible side effects of the medications and potential behavior problems that might arise due to these side effects. The medications are categorized according to the medical condition for which they would be prescribed.

### Example

Amy is a three-year-old girl with cerebral palsy. Her doctor had recently prescribed a medication called diazepam (Valium) which is known to be helpful in decreasing muscle tone, therefore alleviating her spasticity and rigidity. Both Amy's doctor and her parents felt that this would be helpful to Amy so that she could learn many of the skills other children her age were learning. For example her mom felt it was very important for Amy to paint and draw, in addition to assist in her dressing and self care activities.

Initially the medication did in fact alleviate her spasticity, and Amy had more participation in activities such as painting and dressing. Unfortunately, Amy soon became very drowsy in the middle of the day. Her mom thought a daily nap would be helpful, but even after she awoke from her nap she appeared very lethargic. Her drowsiness became so bad that she was no longer motivated to participate in many of the activities that were targeted to be helped by the medication.

Amy's mother contacted the doctor to let him know the problems Amy was experiencing. The doctor informed her that this was a common side effect of the medication. He suggested that Amy's dosage be decreased and her behavior monitored until positive changes were noted. Although it took some time to determine, an appropriate dosage was identified. In time, Amy was able to benefit from the relaxing effects of the medication, without feeling lethargic and drowsy during important times of her day.

### **C. Syndromes associated with challenging behavior**

#### **What is a syndrome?**

A condition is characterized as a syndrome when a combination of physical traits or malformations is inherited in the same way and carries a similar prognosis (Batshaw & Perret, 1987). Many challenging behaviors, such as self-injury, food stealing, or socially inappropriate behaviors are associated with specific syndromes. If a learner has been diagnosed with a syndrome (i.e., Tourette syndrome), it is important for the interventionist to be aware of the diagnostic label. In addition to aiding in the development of intervention plans, it allows the interventionist to become more familiar with the syndrome through contact with national organizations, talking with other professionals and reading special education, psychology, and medical literature relating to the disorder.

#### **1. Tourette Syndrome**

##### **a. What is it?**

Tourette syndrome is a genetic, neurological developmental disability characterized by motor and vocal tics. Tics are involuntary, nonpurposeful sounds and movements that are sudden and occur repeatedly. Tourette syndrome is often associated with a number of disorders, including attention deficit hyperactivity disorder, learning disabilities, sensory motor problems, developmental delays and obsessive compulsive disorders (thoughts that will not go away until a compulsive behavior is performed).

**b. What are the characteristics of children who have Tourette Syndrome?**

The tics that children with Tourette syndrome exhibit are categorized as simple and complex.

Simple:

Motor - Eye blinking, head jerking, shoulder shrugging, facial grimaces

Vocal- Throat clearing, barking sounds, sniffing, tongue clicking, spitting

Complex:

Motor - Jumping, falling to the ground, twirling about, whipping objects

Vocal - Coprolalia (saying socially unacceptable words or phrases), Echolalia (repeating others), Palilalia (repeating oneself)

**c. What treatments have been implemented?**

Treatment for children who exhibit Tourette Syndrome may include counseling/therapy for the child in order to manage behavioral and emotional consequences that stem from the syndrome in addition to education of the child himself, family, friends and school personnel regarding its implications. Medication has also been effective in the control of motor and vocal tics.

**2. Lesch-Nyhan Syndrome**

**a. What is it?**

Lesch-Nyhan Syndrome is caused by the body's failure to metabolize the chemical purine, due to an enzyme deficiency. It is a sex linked disorder that occurs only in males. Associated problems include mental retardation, slow, writhing movements of the arms and legs, athetosis, and an excess amount of uric acid in the blood.

**b. What are the characteristics of children who have Lesch-Nyhan Syndrome?**

The predominant characteristic in children who have Lesch-Nyhan Syndrome is severe mutilation of fingers, tongue and lips by biting. Some individuals have also been reported to engage in eye-gouging and head banging.

**c. What treatments have been implemented?**

The intensity of the self-injurious behavior related to Lesch-Nyhan syndrome has in some cases necessitated constant physical restraint

or tooth extraction. More recently, less intrusive behavioral procedures have been successful in reducing the self-injury of some Lesch-Nyhan patients. It is believed that self-injury in Lesch-Nyhan syndrome is sensitive to environmental social contingencies and that there is a bio-behavioral interaction. Researchers have been experimenting with medications to replace decreased levels of certain chemicals in Lesch-Nyhan patients. The use of medications in the treatment of Lesch-Nyhan syndrome is still in the experimental stage.

### **3. Cornelia deLange syndrome**

#### **a. What is it?**

Cornelia deLange syndrome resembles a chromosomal disorder but no specific genetic nor biological basis for this disorder has been found.

#### **b. What are the characteristics of children who have Cornelia deLange Syndrome?**

Characteristics include mental retardation, abnormally small hands, enlargement of the brows and lashes, small hands and feet, short limbs, webbing of the feet, congenital heart defects, and excessive facial and body hair.

Some children with Cornelia deLange syndrome exhibit self-injurious behavior, including face hitting, face picking and lip biting, but no specific pattern has been found.

#### **c. What treatments have been implemented?**

Self-injury in children with Cornelia deLange syndrome has been successfully treated with behavioral intervention programs.

### **4. Riley-Day syndrome**

#### **a. What is it?**

Riley-Day syndrome is a genetic disorder identified in the American Jewish population.

#### **b. What are the characteristics of children who have Riley-Day Syndrome?**

Children with Riley-Day syndrome have distinctive physical features, and many neurologic and physiologic abnormalities. There is evidence of abnormal sensory nerves, organs, and fibers in children who have Riley-Day syndrome. Taste perception and discrimination are deficient and pain perception is reduced or absent, often resulting in self-injurious behavior.

#### **c. Possible treatments**

**5. Prader-Willi syndrome**

**a. What is it?**

Prader-Willi syndrome is a hereditary disorder associated with damage to chromosome 15.

**b. What are the characteristics of children who have Prader-Willi syndrome?**

Prader-Willi syndrome is characterized in infancy by hypotonia and poor feeding. Later in childhood, characteristics include obesity, short stature and small sex organs. There is also a tendency toward oppositional behavior. The primary behavioral characteristics of Prader-Willi syndrome are an insatiable appetite and a compulsive preoccupation with food (Luiselli, Taylor, Caldwell, 1988).

**c. What treatments have been implemented?**

A number of treatments, both in isolation and in combination, have been implemented with learners who have Prader-Willi syndrome. Such treatments include environmental manipulations (locking food storage cabinets), medications (which is still in the experimental stage), diet regulation, and behavioral programming.

**6. Tardive dyskinesia syndrome**

**a. What is it?**

Tardive Dyskinesia is a syndrome consisting of involuntary, rhythmic, repetitive movements, for example, sucking, smacking the lips, sudden flailing of the arms, and jerky body movements (Gadow, 1986). This syndrome has developed in individuals who have been treated with neuroleptic drugs (i.e., Mellaril, Thorazine and Stelazine).

**b. What are the characteristics of children who have Tardive Dyskinesia syndrome?**

Ceaseless, rapid, jerky, and involuntary movements of the arms, legs and head are frequently reported symptoms in children with tardive dyskinesia. For some children the syndrome does not become apparent until after the medication is terminated (Gadow, 1986).

**c. What treatments have been implemented?**

Tardive dyskinesia syndrome has been known to disappear in some individuals who have discontinued use of neuroleptic drugs. In other learners, who have shown symptoms only when the drug is discontinued, will no longer exhibit the symptoms when the drug is reinstated. For learners who are permanently afflicted, treatment of tardive dyskinesia might include counseling/therapy for the child in

addition to education of the child himself, family, friends and school personnel regarding its implications.

## 7. Fetal Alcohol Syndrome (FAS)

### a. What is it?

Fetal Alcohol Syndrome is a birth defect that is caused by heavy prenatal alcohol exposure in utero (Streissguth, 1991). Children who are diagnosed with fetal alcohol syndrome have features in each of the following three categories: (1) craniofacial anomalies; (2) growth deficiency; and (3) central nervous system (CNS) effects.

### b. What are the characteristics of children who have Fetal Alcohol Syndrome?

During their preschool years, children with Fetal Alcohol Syndrome are likely to exhibit hyperactivity and language and motor problems. Hearing and vision impairments are also common. In school age children learning problems and attentional and memory deficits are evident, in addition to behavior problems.

### c. What treatments have been implemented?

It is recommended that an interdisciplinary approach to the provision of services be utilized for the benefit of both the child and his/her family. Preschool child with fetal alcohol should have medical evaluations regularly to screen for hearing and vision problems and early language stimulation and enrichment is recommended.

## Example

James is a new student in Barb's early childhood classroom. He is four-years-old and has been diagnosed with moderate mental retardation. The very first day, Barb realized that James had a compulsion with food. During snack time, James noticed that Barb had taken a box of crackers from a small cupboard in the corner of the room. Upon seeing the box of crackers James grabbed them from Barb and began to tear at the box. Barb helped James remove the crackers from the box, and gave him and the other students in the class a portion. She then returned the box to its storage place.

Suddenly James ran directly towards the small cupboard, and grabbed the box of crackers. When Barb tried to direct him to the play area, James became very agitated and refused to comply. After some coaxing James did go to the play area but it was not long before he was headed in the direction of the cupboard. This behavior continued for the rest of the day. Barb, concerned about this took a careful look at James' medical records. She found that James had been diagnosed with a syndrome called Prader-Willi syndrome. She had never heard of this syndrome before, and spent the next few days finding out as much as she could about it.

Barb learned a great deal about Prader-Willi syndrome, which in turn assisted her in planning for interventions with James. She rearranged the room, so the cupboard would not be so distracting for James. She also

consulted James' parents and pediatrician to find out the foods that James could and could not eat. Although James' behavior did not change completely, through careful programming, he was participating in classroom activities for longer periods of time.

**Table 1 Common Anticonvulsant Medications for children**

Trade Name	Generic Name	Possible Side Effects	Potential Behavior Problem
Clonopin	Clonazepam	Drowsiness, ataxia, behavior problems, appetite loss	Drowsiness may cause a learner to become unmotivated and noncompliant when approached with even a simple task.
Depakene	Valproic acid	Nausea, vomiting, indigestion, diarrhea, constipation, appetite loss, sedation, tremor, hair loss, weakness, liver impairment	Due to the physical discomfort of bowel problems, a learner may engage in aggression or self injurious behavior in order to solicit attention.
Depakote	Dival proex sodium	Nausea, vomiting, indigestion, diarrhea, constipation, appetite loss, sedation, tremor, hair loss, weakness, liver impairment	A learner who suffers from indigestion may engage in self-injurious behavior, for example, pounding her stomach, in order to alleviate the physical discomfort.
Dilantin	Phenytoin	Nystagmus (twitching of the eyes), ataxia, slurred speech, confusion, dizziness, insomnia, nausea, vomiting, constipation, rash, gum overgrowth, body hair increase	Feelings of dizziness, confusion and nausea may cause a learner to engage in aggressive behaviors when requested to participate in an instructional activity.
Phenobarbital	Phenobarbital	Drowsiness, irritability, hyperactivity, ataxia, sleep difficulties, rash	A learner may become overly active during instruction time, making many attempts to leave the area and walk around the room.
Tegretol	Carbamazepine	Dizziness, drowsiness, unsteadiness, nausea, vomiting, rash, blurred vision, nystagmus, anemia, liver impairment	Blurred vision in combination with nystagmus (eye twitching) might cause a learner, when presented with an activity to become angry and throw the materials across the room.
Zarontin	Ethosuximide	Drowsiness, headache, dizziness, irritability, hyperactivity, fatigue, appetite loss, nausea, vomiting, hiccups, liver impairment	A learner who is usually eventempered may become aggressive when asked to perform a task due to the irritability induced by this medication.
Mysoline	Primidone	Lethargy, ataxia	A learner who becomes lethargic due to medication might be unmotivated and unwilling to engage in any type of physical activity.

**Table 2**      **Common Stimulants and Sedatives for treatment of hyperactivity**

Trade Name	Generic Name	Possible Side Effects	Potential Behavior Problems
<u><b>Amphetamines</b></u> (Stimulants)			
Ritalin	Methylphenidate	(Not approved for children under 6 years of age) Loss of appetite, decrease in weight and height gain, insomnia, stomach cramps and irritability	A learner who is not fully rested might be unmotivated, and resist engagement in instructional activities.
Dexedrine	Dextoamphetamine	(Not approved for children under 3 years of age) Loss of appetite, decrease in weight and height gain, insomnia, stomach cramps and irritability	A learner who has stomach cramps may engage in aggressive behavior in order to solicit attention from her caregiver.
Cylert	Pemoline	(Not approved for children under 6 years of age) Weapiness, irritability euphoria, fearfulness, drowsiness	Irritability in a learner may cause him/her to engage in aggressive behavior when approached with a request to participate in an instructional activity.
<u><b>Phenothiazines</b></u> (neuroleptics, sedatives)			
Mellaril	Thioridazine	Drowsiness, hyperactivity, lethargy, restlessness, blurred vision, dry mouth, nausea, dizziness, constipation, excessive appetite, associated with tardive dyskinesia syndrome	The physical distress and discomfort associated with nausea and dizziness might cause a learner to engage in aggressive behavior whe. . . approached by an otherwise welcome peer or intervencionist.
Thorazine	Chlorpromazine	Drowsiness, hyperactivity, lethargy, restlessness, blurred vision, dry mouth, nausea, dizziness, constipation, excessive appetite, associated with tardive dyskinesia syndrome	A learner who is lethargic might be unmotivated and resist engagement in instructional activities.
Stelazine	Trifluoperazine	Drowsiness, hyperactivity, lethargy, restlessness, blurred vision, dry mouth, nausea, dizziness, constipation, excessive appetite, associated with tardive dyskinesia syndrome	A learner who has an excessive appetite might constantly try to acquire food. This may cause the learner to bolt from his/her seat towards food sources, such as cupboards or the refrigerator.

Table 3

Common Medications used in the Treatment of Cerebral Palsy

Trade Name	Generic Name	Possible Side Effects	Potential Behavior Problems
Dantrium	Dantrolene	Irritability, lethargy, drowsiness, physical discomfort	A learner who is experiencing physical discomfort may become agitated, and behave aggressively, when asked to perform tasks which require physical exertion.
Lioresal	Baclofen	Drowsiness, dizziness, fatigue, constipation, nausea	Nausea and dizziness may cause a learner to engage in self injurious behavior, (i.e., face slapping) due feelings of frustration and confusion.
Valium	Diazepam	Lethargy, drowsiness, depression, ataxia, nausea, vomiting, vertigo, constipation, weight gain	Due to the physical discomfort associated with constipation a learner might try to solicit attention by banging his head against a wall.
Librium	Chordiazepoxide	Drowsiness, ataxia, confusion, nausea, constipation	Feelings of drowsiness might cause an ordinarily active learner to become noncompliant when requested to participate in classroom activities.

# Functional Assessment of Challenging Behavior

## I. What is Challenging Behavior in Preschoolers?

Challenging behavior can be defined as actions produced by a learner that result in self-injury or injury of others, causes damage to the physical environment, interferes with the acquisition of new skills, and/or socially isolates the learner (Doss & Reichle, p. 215). Many young children engage in occasional challenging behaviors. Toddlers may disobey or ignore directions, tantrum when asked to stop an activity, throw disliked food items on the floor, and on occasion, slap playmates who have just taken favorite toys. Fortunately, for most children, challenging behaviors occur somewhat infrequently and are short in duration. Unfortunately some children engage in challenging behaviors that are intense or occur so frequently that the child's health is endangered or acquisition of new skills is hampered.

## II. What are Some Different Forms of Challenging Behavior?

Challenging behaviors may take many forms. Included among these forms are;

- self-injurious behavior such as scratching, biting, head banging, punching, face slapping, pinching, eye gouging, ear pulling, hand mouthing, arm biting, and self choking,
- aggression such as hitting, scratching, kicking, biting, pinching others, and knocking over objects,
- tantrums such as persistent crying, loud vocalizations, screaming, and whining,
- social avoidance such as looking away, and leaving group activities, and
- self-stimulatory behavior such as body rocking, hand flapping, mouthing, and body posturing.

It is evident from this list of challenging behaviors that they may range in severity from those that while annoying, are relatively harmless (e.g., whining, crying, screaming) to

actions that pose danger to the individual or others (e.g., aggression, self inflicted injuries). In addition to taking many different forms, challenging behaviors can also serve a number of purposes (functions).

### III. What are Some Different Functions of Challenging Behavior?

O'Neill et al. (1991) delineated a number of functions that challenging behaviors might serve. They characterized that challenging behaviors may be emitted in order to obtain desired outcomes or to escape undesired outcomes. Figure \_\_ expands on these two categories by illustrating that challenging behaviors that are emitted to obtain or to escape can be either socially motivated or nonsocially motivated.

- a. Socially motivated challenging behavior requires the mediation or assistance from another person in order to achieve the desired outcome. For example, a learner may want to show her teacher a picture she has drawn. The teacher, however, is talking with another child. The learner screams loudly and the teacher immediately looks at the learner and comments on the drawing. Another learner may desire a preferred toy that is located on top of a shelf. If height of the shelf prevents the learner from obtaining the preferred item, the learner may cry when he realizes that he can't reach the desired object. As a result, an adult may approach and retrieve the desired object and give it to the child. In the future the child may be likely to cry when a desired object is unobtainable if it results in the assistance from an adult to gain access to the desired item. In a third example, an adult may request that a child complete the task of picking up her toys and placing them on the shelf. The child begins throwing the toys at another child. The adult then asks the child to leave the area.

These examples illustrate that the events that occur just prior to (antecedents) and immediately after challenging behavior (consequences) can influence whether future demonstrations of the challenging behavior will occur. In the first example, the antecedent was the occasion when the child wanted attention from her teacher. The consequence was the attention that was received after the instance of loud screaming. In the second example, the antecedent was the occasion when the child wanted a desired object. The consequence was the assistance that she received from an adult after he began to cry. In the third example, the antecedent consisted of the teacher asking the learner to pick up her toys. The consequence was the release from the task after the learner threw the toys at another child.

- b. Nonsocially motivated challenging behavior does not require the mediation of others in order to achieve the desired outcome. For example, a learner may engage in self-stimulatory behavior such as hand flapping (e.g., waving hands or wiggling fingers in front of face) in order to receive the sensory feedback (e.g., tactile and visual stimulation) that occurs during this movement. In nonsocially motivated challenging behavior, the learner may be observed to engage in this activity regardless of whether or not other people are present in the immediate environment.

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Insert Figure (O'Neill et al diagram) about here

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Behaviors thought to be nonsocially motivated may present a challenge for interventionists in terms of devising strategies for reducing their occurrence. First a referral to a physician would be made to rule out medical conditions that might precipitate emissions of the challenging behaviors. The origin of many nonsocially motivated challenging behaviors is discomfort or pain. For example, when an infant is experiencing an earache, he may tug at his ear. Because this is a behavior that his parents rarely see they become concerned and consult a physician. Physicians often confirm that there is a medical origin that would have caused the ear tugging behavior. Similarly, there are other medical conditions that may influence the occurrence of challenging behavior.

- c. Nonsocially motivated challenging behaviors may become socially motivated over time. Consider a child with conjunctivitis (pinkeye) who rubs his eye because it itches and rubbing brings temporary relief. In doing this, he may also receive attention from his teacher saying, "Billy, stop that. Leave your eyes alone." This child may continue to rub his eye long after the viral infection has disappeared in order to continue to receive adult attention.

Similarly, consider Milli, a three year old with moderate developmental disabilities who scraped her wrist on the sidewalk during a fall. The scraped area felt itchy as it healed, and in her sleep one night, Milli scratched her arm, reopening the wound. It was quite painful and began to bleed. When she ran to her parent's room her father comforted her, cleaned her wrist thoroughly, applied a new bandage, carried her to the kitchen, where he made her a cup of hot cocoa (favorite treat) and then read her a story (a favorite activity) before turning out the light. Several days later, Milli was playing outside in her sandbox while her parents entertained relatives inside. As she burrowed her hands in the

sand, she noticed that her bandage was loose. She removed it, and began inspecting the wound. She scratched the injured area, tentatively at first, then more persistently. It began to bleed, and Milli ran into the house in tears. This time, while her mother applied first aid, her aunt held her on her lap and told her what a brave little girl she was. After she had finished, Milli's mother gave her a popsicle, and her aunt took her outside to ride her tricycle. If this pattern of reinjuring minor cuts, scrapes, and irritants continues to be followed by attention and comfort, Milli's parents may see an increase in this behavior. In this instance, scratching a healing wound, a behavior that was nonsocially motivated, became socially motivated because of the large amounts of attention as well as favorite snacks and activities that were received. Through their actions, Milli's parents inadvertently increased the possibility that Milli would repeat her behavior even after her injury healed and no longer caused her discomfort. This is not to suggest that parents be cold and business-like when attending to their children's cuts and bruises. It does suggest that adults should understand that their actions, however well intended, may contribute to the development of an inappropriate attention-getting behavior.

#### **IV. Why is it important to consider functional equivalency and response efficiency?**

The hypothesis that some challenging behaviors are emitted to serve social functions or purposes led interventionists to the conclusion that the socially acceptable behaviors that are taught must be functionally equivalent to and more efficient than the challenging behaviors. A functionally equivalent behavior serves the same function as the challenging behavior. For example, if a learner engages in screaming in order to obtain attention, the communicative alternative that is taught must also serve to obtain attention. The desired outcome, attention, must be received when the learner engages in the new socially acceptable response. An efficient behavior is one that the learner can produce with ease. The new socially acceptable behavior must be easier to produce than the challenging behavior while recruiting the desired outcome within a short period of time. For example, if a learner engages in tantrumming behavior (e.g., crying, lying on floor, stomping feet, throwing objects) in order to escape a nonpreferred activity, it is reasonable to conclude that teaching the individual to touch a symbol that indicates, "I want to take a break" would require less effort than the challenging behavior. The use of this new response would also make it possible for the learner to escape the task sooner than the demonstration of the old behaviors.

When replacing socially motivated challenging behaviors with communicative alternatives the interventionist must determine whether or not the learner's communicative

function will be reinforced. For example, in some situations it is entirely appropriate for the learner to have his or her communicative function honored. Consider a learner who acts aggressively on the play ground because she wants to participate in a game with her peers. In this situation, the learner may be taught to request to gain access to the group (e.g., teach her to sign "Play please") and it is likely that the learner will be reinforced (i.e., provided with an opportunity to play with her peers) each time she emits this communicative function. In other situations, it may be acceptable for the learner's communicative function to be honored, but on a temporary basis only. For example, a learner may engage in tantrumming behavior in order to gain access to soda-pop at meal times. Initially, her parents may choose to teach her an appropriate means of requesting this preferred beverage at meal times and for a short time will provide her with soda-pop each time she asks appropriately. However, over time they plan to have their daughter choose a more nutritious beverage to drink with her meal.

Finally, there are situations where interventionists are unable to honor a learner's communicative intent because it may be harmful to his or her health or well being. Consider a learner who engages in avoidance motivated challenging behavior when approached with his daily dosage of seizure medication. In this situation, it may not be appropriate for the learner to avoid the medication. As a result, the interventionist may not be able to honor his rejecting response, whether or not it is emitted in an appropriate manner (e.g., the learner signs "No thank-you" instead of acting aggressively). As a result, it is important for the interventionist to carefully consider whether or not the learner's communicative function will be reinforced prior to choosing a communicative replacement as an intervention strategy.

In order to be successful at teaching an appropriate alternative replacement behavior, it is essential to assess the function of the problematic behavior. The process that has been used to obtain information regarding the function of a challenging behavior is referred to as a **functional assessment** (e.g., Durand, 1991; Lennox & Miltenberger, 1989; O'Neill, Horner, Albin, Storey, & Sprague, 1990).

## V. How can we Assess the Function of Preschoolers' Challenging Behaviors?

### A. Definition and Purpose of Functional Assessment

1) A functional assessment is a process of determining the relationship between events in a person's environment and the occurrence of challenging behaviors. This process involves;

- identifying and defining the challenging behavior,
- identifying the events and circumstances that are regularly associated with the occurrence and the nonoccurrence of the challenging behavior,
- determining the social function or the purpose of the challenging behavior (Foster-Johnson & Dunlap, 1993; O'Neill et. al., 1990).

2) A number of methods have been described for collecting functional assessment information. These functional assessment methods can be divided into three basic categories;

- indirect assessments
- direct observations assessments
- environmental manipulations or analog assessments

### B. Indirect Assessments

Indirect assessments include existing written documents, interviews, checklists, rating scales, and questionnaires. This method of assessment is typically completed by obtaining information from individuals who are familiar with the learner. Indirect assessments of challenging behavior are designed to obtain information regarding the perceived function of a challenging behavior, as well as, the factors that predict or maintain the behavior. In some cases, an indirect assessment will be the only source of functional assessment information. However, it is more likely to be used as the initial step of a more thorough assessment process. There are several different indirect assessment methods that can be used to obtain functional assessment information. Included among these tools are;

- Existing written documents (e.g., IFSP, IEP)
- Motivation Assessment Scale (MAS)
- Setting Event Checklist
- The Functional Analysis Interview

## **1. Review Existing Written Documents**

### **a. What does reviewing existing written documents entail?**

Reviewing existing written documents entails closely examining written reports in order to obtain information relevant to the learner's engagement in challenging behaviors. Existing written documents may include; Individualized Family Service Plan (IFSP), Individualized Educational Plan (IEP) and related service personnel reports (e.g., occupational therapy, physical therapy, speech/language therapy, psychologist, social worker, family counselor, etc.). In addition, some preschoolers receive services from other agencies, such as hospitals or out patient clinics that also may have relevant written documentation.

### **b. What types of information are derived from reviewing existing written documents?**

Information that an interventionist might obtain from existing written documents includes:

- documentation from other child care providers (e.g., day care provider, bus driver, preschool teacher, etc.)
- information from other assessments that have been conducted,
- information regarding the outcomes from previous interventions,
- number of incident reports

### **c. What procedures need to be followed in order to review existing written documents?**

Before accessing any type of written documentation, it is important to obtain formal permission from the child's parent and/or agency or district. For example, IEPs are considered by law to be confidential information. School districts are required to store these documents in a locked cabinet and only members of the individual's IEP team may have access to the file. In this case, it would be very important to first contact the administrator of the school district in order to determine how one can gain access to the IEP (if not already a member of the child's team) and then take the necessary steps to ensure that permission is acquired from all pertinent individuals (e.g., parent, classroom teacher, etc.). Once permission has been acquired, the documents should be read carefully, and all information relevant to the learner's engagement in challenging behavior should be noted.

### **d. When in the sequence of the functional assessment process would a**

**review of existing written documents be appropriate?**

It is important to review existing written documents early on in the functional assessment process. Information from written documents may enable the interventionist to rule out physical or medical conditions that may be causing the child to engage in challenging behavior. It may also provide the interventionist with important information regarding events that occurred in the past. For example, the child may have experienced traumatic events in his or her life (e.g., multiple home placements, the loss of a parent or sibling, etc.). In addition, reviewing existing written documents may provide information regarding interventions that were previously implemented, and whether or not these interventions were successful in decreasing or eliminating the child's challenging behaviors.

**e. What are the advantages and disadvantages of reviewing existing written documents as a means of acquiring information for a functional assessment?****Advantages of Reviewing Written Documents**

- May alert interventionists to relevant variables regarding the learner's history or within other educational/recreational settings.

**Disadvantages of Reviewing Written Documents**

- Variables present in other educational/recreational settings, may not be relevant to the learner's engagement in challenging behavior in the setting of concern.
- Documented information may be in reference to an alternative form of challenging behavior and/or may have served a different function for the learner in the past.
- Information may or may not have been documented by a reliable source.

## 2. Motivation Assessment Scale

### a. What is the Motivational Assessment Scale?

The Motivation Assessment Scale (MAS) is a questionnaire containing sixteen questions (Appendix 1). It is designed to pinpoint the function(s) of a challenging behavior. The authors state that the purpose of the MAS is to identify the situations in which the individual is likely to engage in the challenging behavior and then use this information in order to assist the interventionist in making more informed decisions regarding the selection of appropriate interventions.

### b. What type of information is derived through the completion of the Motivation Assessment Scale?

The MAS helps to determine the extent to which the challenging behavior serves the function of obtaining attention, escaping or avoiding nonpreferred activities, obtaining preferred items or activities, or providing sensory stimulation. The interviewee is encouraged not to think of specific instances of challenging behavior but is instead encouraged to consider the context within which many instances of the identified challenging behavior occurs. There are four different questions that address each of the four function categories. For example, in order to probe a possible attention function the interviewer is asked, "Does the behavior occur when you stop attending to this person?" An escape or avoid function would be probed by asking, "Does the behavior occur when any requests are made of this person?" To determine whether access to tangibles maintains challenging behavior, the interviewee is asked, "Does the behavior stop occurring shortly after you give this person the toy, food, or activity that she or he has requested?" A sensory function is addressed by asking, "Does it appear to you that this person enjoys performing the behavior?" (It feels, tastes, looks, smells, and/or sounds pleasing). There are four different questions that address each of the four function categories.

### c. What procedures need to be followed in order to complete the MAS?

#### Step 1

The MAS is designed to examine one behavior, in one setting, with one individual. Therefore, a separate MAS should be completed for each behavior of concern as well as in each setting and with each individual (e.g. care provider) with whom the problem behavior occurs.

Step 2

In order to complete the MAS the interviewee responds to each of the questions by circling the response on a scale from 1 to 7 that describes the extent to which the challenging behavior is associated with a variety of situations:

1=never	4=half the time	7=always
2=almost never	5=usually	
3=seldom	6=almost always	

Step 2

On the bottom of the second page, are sixteen numbered lines in which to place each of the corresponding answers. Place each of the answers to the sixteen questions on the corresponding line. Notice that the questions are divided into four columns each labeled with a different function (i.e., #1, #5, #9, and #13 are in the "Sensory" column, #2, #6, #10, and #14 are in the "Escape" column, #3, #7, #11, and #15 are in the "Attention" Column and #4, #8, #12, and #16 are in the column labeled "Tangible").

Step 3

Total the four scores contained in each of the four columns, placing the total on the line labeled "Total score"

Step 4

Determine the mean scores, by dividing the total score for each column by four. For example if the total score for the sensory column was 20, you would divide 20 by 4 and place the answer 5 on the line labeled "Mean score".

Step 5

On the bottom line labeled "Relative ranking", rank each of the scores in from highest (rank 1) to lowest (rank 4).

**d. How does one go about interpreting the information obtained through the Motivational Assessment Scale?**

Once the mean scores and relative ranks have been calculated, one can determine the perceived function of the behavior. Fig. 2 provides an example of an MAS conducted on young girl who waved her hand in front of her eyes. The results of this

MAS clearly indicate that the function of her challenging behavior (hand waving) was sensory motivated. Fig.3 provides an example of two completed Motivational Assessment Scales for a 6 year-old learner who engaged in the challenging behaviors of leaving table tasks and pushing/destroying materials. A separate sheet was used for each of the two behaviors. Referring to the "Relative Ranking" on each of the sheets, it clear that each of the behaviors serves two functions for this particular learner. It appears that he leaves table tasks and pushes/destroys materials in order to gain attention and to escape the activity.

**e. When in the sequence of the functional assessment process should an MAS be conducted?**

The Motivational Assessment Scale should be completed during the initial stages of the interview process. The directions provided with the MAS are easily interpreted, therefore, copies may be forwarded to staff prior to conducting an in-person interview.

**f. What are the advantages and disadvantages of completing a MAS as a means of acquiring information for a functional assessment?**

**Advantages of the MAS**

- Can be completed quickly, depending on the number of challenging behaviors exhibited by the learner.
- Instructions are easily interpreted by parents and staff allowing for independent completion and analysis of the rating scale.
- Assists the interventionist in identifying potential function(s) that the challenging behavior may be serving for the learner.

**Disadvantages of the MAS**

- Can be time consuming to complete, based on the number of challenging behaviors exhibited by the learner.
- Does not provide information regarding setting events or environmental influences that may be associated with the challenging behavior.
- Does not provide information regarding consequences that are typically provided following the learner's engagement in challenging behavior.

- Does not provide information addressing how often the behavior occurs or if it occurs just prior to or following (e.g., within a chain) other challenging behaviors.
- No information is provided addressing physical or medical issues that may be associated with the challenging behavior.
- No information is provided regarding prior intervention efforts and their outcomes.
- The reliability of responses may be questionable. For example, different interviewees, familiar with the same child may respond differently to the same set of questions. Additionally, the same interviewee may respond differently to different questions on the same form that are targeted for one single function (e.g., escape or sensory).

## 2. Setting Event Checklists

### a. What is a setting event checklist?

A setting event checklist helps the interventionist identify variables in the learner's previous or present environment that may influence whether or not challenging behavior occurs in the presence of a discriminative stimulus (an event that triggers the occurrence of challenging behavior). These variables are defined as "setting events" and can be:

- temporally distant from the occurrence of challenging behavior (e.g., the child has an altercation with his or her sibling two hours before engaging in challenging behavior)
- in close proximity to the occurrence of challenging behavior (e.g., the learner had a favorite toy taken away five minutes before engaging in the challenging behavior)
- may be an ongoing situation or state (e.g., the learner is extremely fatigued due interrupted sleep, or a nonpreferred person is present in the environment)

Consider for example, a child who has only received 4 hours of sleep on a given night, but usually receives 8. This child may begin his or her day in a state of fatigue. This state of fatigue may influence whether or not specific appropriate and challenging behaviors occur throughout the day. For instance, if Greg receives 8 hours of sleep, he may wake up smiling and may be cooperative during dressing and grooming tasks. As a result, positive interactions may occur between Greg and his parents. They may smile back, hug him, give him choices regarding clothing that he would like to wear or the foods that he would like to eat for breakfast. These positive interactions can in turn affect how Greg may respond later in the day when another child takes away a favorite toy that he is holding. For instance, Greg may choose to play with a different toy.

On the other hand, if Greg only receives 4 hours of sleep during the night, he may resist getting up in the morning and may cry when his parents attempt to wake him. As a result Greg's morning routine takes longer and his mother or father must hurry him through dressing, grooming, and breakfast. They can not afford the time to offer

choices or give extra hugs. Greg may resist the hurrying and again cry. Greg's crying may cause his parents to deliver disapproving comments and looks. These negative interactions may then affect how Greg responds later in the day when another child take his favorite toy. He may in fact cry or hit the other child.

**b. What types of information are derived from a setting event checklist?**

Setting events fall into three primary categories:

- Physical state (e.g., medical condition, illness, side effects of medication, fatigue, hunger, thirst, etc.)
- Social state (e.g., adverse social interactions, change in caregiver, anticipated event was canceled or postponed, etc.)
- Environmental (e.g., crowded, noisy, unstructured, etc.)

Information regarding any of these categories of setting events can be derived via the development and consistent completion of a setting event checklist.

**c. What procedures need to be followed in order to develop and complete a setting event checklist?**

Step 1

Individuals familiar with the learner list all possible setting events, including physical and social state, and environmental variables that may have an effect on the learner's propensity to engage in challenging behaviors. Events such as fatigue, negative interactions, and disappointments (e.g., a late bus, running out of juice, an absent teacher) that are relevant to a particular learner's engagement in challenging behaviors should be identified.

Step 2

Once this list has been compiled, it should be stored in a location that can be easily accessed by individuals who interact with the learner. For example, it may be taped onto the inside cover the learner's note book that is used for correspondence between school staff, day care staff and family members.

Step 3

Following interacting with the learner in each setting (e.g., home, school, day care)

parents/interventionists note on the setting event checklist whether or not any of the setting events on the list occurred while the learner was in that particular setting.

Step 4

Upon arrival to a new setting (e.g., school, day care or back home), parents/interventionists examine the setting event checklist in order to determine whether or not any of the setting events had occurred in the previous environment.

Appendix 2 provides an example of a generic setting event checklist developed by Gardner, Cole, Davidson and Karan (1986). Figure 4 is an example of a setting event checklist that was developed specifically for Greg.

**d. When in the sequence of the functional assessment process would a setting event checklist be utilized?**

A setting event checklist should be developed in the very early stages of the functional assessment process. Interventionists can be asked to list any events that may influence whether or not challenging behaviors occur at the onset of the functional assessment process. This list of events may be confirmed during an "in-person" interview. Copies of the list may then be made and distributed to all relevant parties (e.g., parents, day care staff, school staff) for completion on a daily basis. The information revealed through the use of a setting event checklist can be cross referenced with any type of frequency recording (e.g., direct observation) used to document the learner's challenging behavior. This will enable the interventionist to identify what setting events were in effect when challenging behaviors occurred.

e. What are the advantages and disadvantages of using a setting event checklist?

**Advantages of a Setting Event Checklist**

- Identifies events that may influence whether or not a challenging behavior will occur.
- Used in conjunction with a direct observation system, informs the interventionist which setting events are most predictive of the challenging behavior
- Enables interventionists/parents to inform one another when setting events have and have not occurred.

**Disadvantages of a Setting Event Checklist**

- Does not provide information regarding possible functions of the challenging behavior(s).
- Does not provide information regarding immediate antecedents that may be associated with the challenging behavior.
- Does not provide information regarding consequences that are typically provided following the learner's engagement in challenging behavior.
- Does not provide information addressing how often the behavior occurs or if it occurs just prior to or following (e.g., within a chain) other challenging behaviors.
- No information is provided addressing physical or medical issues that may be associated with the challenging behavior.
- No information is provided regarding prior intervention efforts and their outcomes.

### 3. The Functional Analysis Interview

#### a. What is The Functional Analysis Interview?

The Functional Analysis Interview is adapted from O'Neill, Horner, Albin, Storey, and Sprague (1990). The goal of the interview, is to describe the problem behavior, identify physical and environmental factors that reliably result in the occurrence of the behavior, and determine the potential functions of the behavior and the consequences which maintain it. Appendix 3 provides an example of a completed Functional Analysis Interview form for a five year old boy named Greg who engaged in the challenging behaviors of leaving an activity after only seconds of participation and pushing/destroying materials.

#### b. What types of information are derived from the Functional Analysis Interview?

Table \_\_\_ illustrates that the functional analysis interview is divided into eight components. Each of these eight components assists the interventionist in obtaining information that will assist him or her in developing hypotheses regarding the motivation(s) of the challenging behavior(s), will aid in identifying variables that can be targeted through the direct observation and/or environmental arrangements, and will provide him or her with information that will be helpful in designing an intervention to decrease the probability that the learner will engage in the challenging behavior.

-----  
Insert Table (components of interview) about here  
-----

#### c. What procedures need to be followed in order complete the Functional Analysis Interview?

##### Step 1

Identify one or two persons who are in daily contact with the learner who engages in challenging behavior(s).

##### Step 2

Depending on whether or not the interviewee is familiar with the interview tool, they may choose to:

- have an interviewer present to take notes and to clarify questions on the

interview

or

- the interviewee may choose to complete the interview independently.

Either way, the interviewee should be given ample time to review and answer each of the questions in the interview.

**d. When in the sequence of the functional assessment process would the Functional Analysis Interview be conducted?**

The Functional Analysis Interview during the initial stages of the functional assessment process. This will help the interventionist to rule out any medical or physical issues that may be causing the learner to engage in challenging behavior. For example, via the interview process, an interventionist may come to realize that the learner's dosage of medication was not recently monitored. A visit to the pediatrician may remedy the problem, in turn identifying the cause of the learner's engagement in challenging behavior (i.e., wrong dosage of medication). It is important for the Functional Analysis Interview to be conducted prior to directly observing the learner. This will allow the interventionist to target times of the day where the challenging behavior is and is not likely to occur. It will also identify variables (e.g., antecedents, hypothesized functions and consequences) that are likely to occur while the learner is observed.

**e. What are the advantages and disadvantages of conducting the Functional Analysis Interview?**

**Advantages of The Functional Assessment Interview**

- Assists the interventionist in obtaining information regarding the potential function of the challenging behavior.
- Assists the interventionist in obtaining information regarding setting events.

**Disadvantages of the Functional Assessment Interview**

- Due to the length of the Functional Assessment Interview, it can be time consuming to complete.
- May be difficult to determine which events are related to each specific challenging behavior, if the learner emits multiple behaviors

- Assists the interventionist in obtaining information regarding antecedents and consequences associated with the challenging behavior
- Assists the interventionist in obtaining information regarding the efficiency of the learner's challenging behavior (e.g., rate, quality and immediacy of reinforcement delivered contingent on the occurrence of the behavior and the amount of effort expended by the learner while engaging in the behavior.
- Assists the interventionist in obtaining information regarding socially appropriate alternatives to the challenging behavior, known by the learner (e.g., Learner says "No" and will push nonpreferred objects away).
- Information reported by staff during an interview may not be objective and reliable information. For example, staff may tend to provide opinions rather than facts and different staff familiar with the same learner may respond differently to the same set of interview questions.

### C. Direct Observation Assessments

A second commonly used method of functional assessment is direct observation. Direct observation involves viewing the learner in the context of his or her natural environment and recording what is observed. Barton and Ascione (1984) discussed the process of direct observation in terms of the following steps:

- (a) selecting the categories of antecedents, behaviors and /or consequences to be recorded,
- (b) developing an objective definition of the behavior(s) to be observed, and
- (c) designing and implementing a direct observation procedure.

There are an array of direct observation procedures available for use by an interventionist.

These procedures vary with regard to the type of information that they provide and the extent to which the information assists the interventionist in developing hypotheses regarding the factors that predict and maintain a behavior. Some frequently used methods of direct observation and the advantages and disadvantages of these methods in the functional assessment of challenging behavior will be discussed in the following sections. Following this discussion, three direct observation tools will be introduced and implementation procedures will be provided.

## 1. **Five Primary Methods used to Record Instances of Challenging Behavior During a Functional Assessment**

Once the interventionist has obtained information (via the interview process) regarding medical/physical conditions associated with the challenging behavior, times/activities during which the challenging behavior is and is not likely to occur and antecedents/setting events that are associated with the learner's engagement in the challenging behavior, direct observation should be conducted. While conducting a direct observation, one may choose from five primary methods to record instances of challenging behavior. These methods are: **frequency recording, interval recording, momentary time analysis, latency and duration.**

### a. **Frequency Recordings**

#### **What are Frequency Recordings?**

Frequency Recordings verify how often a behavior occurs and involve observing and recording the number of times it takes place within a specified amount of time. This method has also been referred to as a tally method or event recording.

#### **For what types of behaviors are Frequency Recordings appropriate?**

Frequency recordings are most informative when behaviors have a clearly identified beginning and end, and each response is approximately equal in length. For example, discrete behaviors such as, hitting, throwing materials, and pinching could be recorded by frequency of occurrences.

#### **What procedures need to be followed in order develop and conduct a Frequency Recording?**

##### Step 1

Objectively define the behavior(s) to be observed

##### Step 2

Decide where and when the learner will be observed and the duration of the recording

##### Step 3

Count the number of times that the behavior(s) are emitted within the specified time period. For example, if a learner engages in aggressive behavior during play time,

the interventionist may target a 30 minute play time block for data collection. During this time block the interventionist will record each instance of any aggressive behavior (e.g., hitting others, throwing objects at other learners, kicking, biting, pulling hair, pinching, etc.).

#### Step 4

In order to determine the rate of the response, divide the frequency of responses by the number of minutes/hours observed each day. Consider the previous example. If on day one the learner engaged in challenging behavior on 30 occasions during the 30 minute observation period and on the second day engaged in the challenging behavior on 40 occasions in 40 minutes, we can determine that this learner is engaging in challenging behaviors at a rate of one occasion per minute.

#### **What are the advantages and disadvantages of conducting a Frequency Recording?**

##### **Advantages of Frequency Recordings**

- Provides a direct measure of the amount of behavior
- Relatively easy to design (e.g., the interventionist simply tallies the number of times an identified behavior or behaviors occur within a specified period of time)
- Is very useful when the identified behavior is discrete (e.g., has a clear beginning and end) and when each instance of the behavior occurs for approximately the same duration of time

##### **Disadvantages of Frequency Recordings**

- Is not useful for transient behaviors such as smiling, attending, talking, or tantrumming because each instance of these behaviors may not occur for a constant duration
- Is not useful for behaviors that have a clear beginning and end but occur so rapidly and so frequently that it is impossible for the observer to record each behavior (e.g., some self-injurious or self-stimulatory behaviors).
- Does not account for factors that may elicit or reinforce the behavior, nor does it address intensity of the behavior

- Is relatively simple for persons working and collecting data in a natural environment (e.g., is not time consuming does not have to draw attention to the behavior)

**b. Interval Recording****What is Interval Recording?**

Interval recording assesses whether the behavior occurred within a specific period of time or not. Interval recordings involve observing a behavior during a predetermined block of time. This block of time (e.g., 15 minutes) is divided into smaller units of time such as 10 or 15 seconds called intervals. After observing behaviors during the short intervals, time is allowed to score occurrences and nonoccurrence of behaviors. Only the first instance of a behavior is recorded during any given interval. The interventionist may elect to record an occurrence if the behavior occurs for any part of the interval (i.e., partial interval recording) or record an occurrence only if the behavior occurs during the entire interval (i.e., whole interval recording), or record an occurrence only if it occurs at a specific moment of time at regular intervals (i.e., momentary time sampling).

**For what types of behaviors are Interval Recordings appropriate?**

Unlike frequency counts, behaviors that are ongoing or have indeterminate beginnings or end points are conducive to measurement through interval recording. This is true because the observer only needs to note if the behavior did or did not occur during the time period. Interval recording is also appropriate for behaviors that may occur in bursts, where it would be difficult to count their frequency accurately. The following are three types of Interval Recording methods:

Partial interval recording: Is often used when it is important to know if an identified behavior though brief occurred for even part of the observed interval. This method is also used when long episodes of behaviors occur (e.g., self-injury) but it is not possible to count each instance. In the situation of self-injury, the interventionist is interested in determining within how many intervals did self-injury occur for at least part of the interval.

Whole interval recording: Is often used when an interventionist is interested in behaviors that occur for a specific duration. For example, a common behavior that is targeted in classroom situations is off task behavior. It is common for children to look or walk around the classroom or talk to classmates. These behaviors would be appropriate for whole interval recording because they would be likely to persist for some time. However, when brief episodes (e.g., 2-3 seconds) of off task behavior do occur, they would not be recorded within this system. Instead the off task

behavior would need to occur for the entire interval of each observation for an instance to be recorded.

**Momentary time sampling:** Momentary Time sampling is another variation of interval recording. Momentary time sampling observations occur for short units of time at different times. This differs from interval recording since observations are not constrained to a specific block of time. For example, an interventionist may observe a learner for 10 seconds every 15 minutes throughout a day and record whether or not a specific behavior or behaviors occurred. This method could be used for ongoing behaviors that are not discrete such as self-stimulatory behaviors (e.g., hand flapping, object spinning, body rocking) (Kazdin, 1982). Behaviors that have a variable duration or indeterminate beginnings or end points also work well with this type of data collection. Additionally, the behavior should occur frequently, as there is limited observation time (only at specified points in time).

### **What procedures need to be followed in order to implement an Interval Recording?**

#### **Step 1**

Objectively define the behavior(s) to be observed.

#### **Step 2**

Decide where and when the learner will be observed.

#### **Step 3**

Divide a predetermined period of time into intervals of equal length.

#### **Step 4**

Based on the type of behavior, and/or the preference of the recorder, choose an interval recording method:      Partial, Whole or Momentary Time Sampling

#### **Step 5**

Partial Interval Recording:      Observe the individual during each interval, and score the behavior as occurring if it did so for at least part of the interval.

Whole Interval Recording:      Observe the individual for the entire length of the

interval and score the behavior as occurring only if it is present during the entire interval.

**Momentary Time Sampling:** Observe the learner at the beginning or end of each interval and record whether or not the behavior(s) occurred at that instant

### **What are the advantages and disadvantages of using an Interval Recording System?**

#### **Advantages of Interval Recordings**

- Interval recording can be used with almost any type of behavior, since it is based on units of time, whereas frequency recording is limited to behavior that is discrete and has a constant duration.
- Interval recording data can be easily converted into percentages.
- Interval recording procedures are also useful for recording instances of several behaviors in one person.
- Interval recording can also be used for collecting data on the same behavior as it occurs in several different individuals.

#### **Disadvantages of Interval Recordings**

- Partial interval recording can overestimate how much time the behavior occurs since a single brief episode of behavior would be scored as an occurrence even though the occurrence did not last the entire time of the interval.
- Whole interval recording can underestimate the rate of behavior since an occurrence is only scored if the behavior occurs for the duration of the interval. This does not take into account shorter episode of the behavior or the frequency of these shorter episodes.
- Momentary Time Sampling is not sensitive to behaviors of short duration (behavior may occur 3 times within each interval and never occur at the beginning of each, when data is being collected)
- When using Momentary Time Analysis, if the behavior is of very long duration, the intervals will overlap.

- Momentary Time Sampling is particularly useful to record behavior that are apt to persist for a while.
- Momentary Time Sampling is particularly useful for busy interventionists, because the time commitment per interval is quite small.
- All three types of interval recording give limited information on the intensity of the behavior(s) and do not account for factors that are influencing the behavior.

### c. Measurement of Duration

#### **What is Measurement of Duration?**

Measurement of duration determines the amount of time that elapses while a response is performed.

#### **For what types of behaviors are Duration Measures appropriate?**

Measurement of duration is particularly useful for ongoing responses that are continuous rather than discrete acts or responses of extremely short duration (Kazdin, 1982). However, it is generally restricted to situations in which the length of time a behavior is performed is a major concern. Interventions aimed at increasing or decreasing the length of time a response is performed might benefit from documenting learner information through duration measures.

#### **What procedures need to be followed in order conduct a Duration Measure?**

##### Step 1

Objectively define the behaviors to be observed, including a clear definition of its onset and termination.

##### Step 2

Decide where and when the learner will be observed and the duration of the recording

##### Step 3

Using a wall clock or stop watch, begin timing the response as soon as it is initiated by the learner, and continue to do so until the learner terminates the response.

## What are the advantages and disadvantages of using a Duration Measure?

### Advantages of Using a Duration Measure

- Fairly simple to implement, requiring that one start and stop a stopwatch or note the time when the response begins and ends.
- Particularly useful for ongoing responses that are continuous rather than discrete actions or responses of short duration (Kazdin, 1982).
- Particularly useful for interventions that attempt to increase or decrease the length of time a response is performed.

### Disadvantages of Using a Duration Measure

- Unless the onset and termination of the response are carefully defined, a duration measurement system may be extremely difficult to employ (Kazdin, 1982).
- In recording duration, a decision is required regarding changes in the intensity of the behaviors and pauses, so they are consistently recorded as part of the response or as a different response.
- Use of response duration is generally restricted to situations in which the length of time a behavior is performed is a major concern.

## d. Measurement of Latency

### What is Measurement of Latency?

Measurement of *latency* refers to the amount of time that elapses between an antecedent and occurrence of a response. For example, the latency of a learner's compliance to task demands can be determined by measuring the amount of time that passes between the delivery of the task demand (e.g., "Pick up your toys."), and the learner's engagement in the corresponding response.

### For what types of behaviors are Latency Measures appropriate?

Latency is an appropriate measure when a learner is slow to initiate a response (e.g., following task demands such as "Go to your seat") (Tawney & Gast, 1984). On the other hand, learners who exhibit short latencies may also exhibit a preponderance of errors (e.g., a learner when given a task demand, quickly responds and does so incorrectly). In this case, task latencies may be measured in order to determine the best means of increasing the latency (between the task demand and the learner's response) in order to teach him or her an attending or observing response.

### What procedures need to be followed in order conduct a Latency Measure?

#### Step 1

Objectively define the behaviors to be observed.

#### Step 2

Decide where and when the learner will be observed and the duration of the recording

#### Step 3

Identify the antecedent cue in the recording of latency will immediately follow.

#### Step 4

Using a wall clock or stop watch, begin timing begin to measure the amount of time that lapses following the antecedent cue and before the target behavior occurs.

## What are the advantages and disadvantages of using a Latency Measure?

### Advantages of Using a Latency Measure

- Fairly simple to implement, requiring that one start a stop watch or note the time when the cue is delivered and when the response begins.
- Enables the observer to determine the learner's tolerance for delay of reinforcement (e.g., release from a nonpreferred activity, access to a preferred item).
- 

### Disadvantages of Using a Latency Measure

- Unless the onset of the cue and the onset of the response are carefully defined, a latency measurement system may be extremely difficult to employ.
- Use of response latency is generally restricted to situations in which the length of time that lapses prior to when a behavior is performed is a major concern.
- 
-

## 2. Direct Observation Strategies Typically used Within the Functional Assessment Process

### a. Scatterplot

#### **What is a Scatterplot?**

The Scatterplot is an interval recording method developed by Touchette, Macdonald, Langer (1985) that provides general information concerning the distribution of occurrences of challenging behaviors across a day.

#### **What types of information are derived from the use of a Scatterplot?**

This type of interval recording method (Touchette et al., 1985) can assist an interventionist in determining if patterns of challenging behavior exist during specific time periods. It is particularly useful, because any of the preceding methods used to record instances of challenging behavior (e.g., frequency, duration, latency) may be incorporated into this method of observation. For example, a scatter plot was used to record the number of times (i.e., frequency count) that the six-year-old learner mentioned previously engages in the challenging behaviors of leaving table tasks and pushing/destroying materials (see figure 5). The data from this direct observation system reveals that there is a pattern of challenging behavior across specific time periods. Specifically, leaving the table and pushing destroying materials occur more frequently from 9:00 - 9:45 am and from 11:30 - 12:00 pm than during the other time periods.

#### **What procedures need to be followed in order complete a Scatterplot?**

The general procedures for using a scatter plot data collection procedure are described by Touchette et al (1985) as;

##### Step 1

Design a grid in which the horizontal lines divide the observation period into time segments within a given day and the vertical lines on the grid represent days of observation.

##### Step 2

Plot the data in such a way that a blank cell is used to represent that no occurrences of the behavior were observed during the time period and a filled in cell is used to

represent that one or more instances of the behavior were observed during the time period.

### Step 3

In some instances, it may be beneficial to combine interval recording and frequency recording by coding rate levels (Touchette et al., 1985). For instance, during a specific interval a slash (/) could indicate 1 or 2 instances and an X could indicate 7-8 instances of behavior.

### **When in the functional assessment process would a Scatterplot observation system be conducted?**

Initially, the Scatterplot observation system can be used to verify information obtained through the interview process. At this point, it may be conducted in order to isolate activities or times of the day that warrant more elaborate systems of direct observation (e.g., ABC Analysis or Functional Analysis Direct Observation). The Scatterplot observation system may also be utilized throughout the entire functional assessment process. For example, times of the day when the behavior is and is not likely to occur could be verified. Additionally, the Scatterplot can easily be used by parents and or classroom personnel, allowing for observation to be conducted in the absence of an "outside" observer.

### **What are the advantages and disadvantages of using a Scatterplot?**

#### **Advantages of a Scatterplot**

- It allows an interventionist to pinpoint the time periods during the day in which the identified challenging behavior is highly likely and highly unlikely to occur. The interventionist can then follow up with a more detailed assessment during specific time periods.
- It is relatively easy to use and interpret.

#### **Disadvantages of a Scatterplot**

- Does not provide information regarding setting events, environmental influences, or immediate antecedents that may be associated with the challenging behavior.
- Does not provide information regarding consequences that are typically provided following the learner's engagement in challenging behavior.

- Does not provide information addressing whether or not the behavior occurs just prior to or following (e.g., within a chain) other challenging behaviors.

**b. Antecedent/Behavior/Consequence (ABC) Analysis**

**What is an ABC Analysis?**

An ABC analysis is a method of direct observation that involves the use of narrative to record the immediate antecedents and consequences present each time the behavior(s) of interest are emitted by the learner (Sulzer-Azaroff & Mayer, 1986). Therefore, in addition to identifying the frequency with which a particular challenging behavior occurred, the ABC Analysis enables the interventionist to further analyze the events, activities and contingencies that are in place when challenging behaviors occur.

**What types of information are derived from an ABC analysis?**

An ABC Analysis assists the interventionist in obtaining information regarding the frequency with which the behavior occurs during a particular time period or activity, antecedents associated with the challenging behavior and consequences associated with the challenging behavior. The standard ABC Analysis form can be elaborated upon in order to reveal additional information. For example, Appendix 4 illustrates how a simple ABC analysis form can be expanded in order to include the observer's hypothesis for the possible function of the challenging behavior, and any comments in which she or he feels are relevant.

**What procedures need to be followed in order conduct an ABC analysis**

Step 1

The ABC Analysis form should be stored in a location that is easily accessible for the observer. For example, it may be placed on a clip board, reduced to index card size so that it can be stored in one's pocket, or hung on a wall in the observation environment.

Step 2

The observer should observe the learner over several days (e.g., 3-5) during periods in which the challenging behavior is likely to occur (this information may be obtained via the interview process).

Step 3

At the onset of the observation period, the date that the observation took place should

be noted.

#### Step 4

After each occurrence of the challenging behavior, the interventionists notes the time, antecedent, behavior, consequence and possible function. Any additional comments thought relevant by the observer should be placed in the "comment" column.

#### **When in the sequence of the functional assessment process would an ABC analysis be conducted?**

The ABC Analysis may be conducted once it has been determined where and when the learner is likely to engage in challenging behaviors. This information may be obtained via the interview process and later confirmed through the use of a Scatterplot observation system. It is suggested (Barton & Ascione, 1984) that the ABC Analysis be used as a precursor to the design and use of more specific direct observation procedures (i.e., Functional Analysis Direct Observation (O'Neill, et al., 1990)).

The information obtained via this method may assist the interventionist in identifying the behaviors and the environmental events that are worthy of further analysis.

Additionally, it has been suggested that this method of direct observation may enable the interventionist to refine an objective definition of the challenging behavior, as well as suggest additional factors maintaining and controlling the behavior that did not arise during indirect methods of assessment.

**What are the advantages and disadvantages of conducting an ABC analysis?**

**Advantages of an ABC Analysis**

- It provides the interventionist with the opportunity to describe any of the antecedents and / or consequences that are observed to occur immediately preceding or following the occurrence of challenging behavior.
- It provides the interventionist with the opportunity to confirm reports that were made regarding relevant antecedents and consequences provided during the interview process.

**Disadvantages of an ABC Analysis**

- This method of data collection does not force the interventionist to comment on each of the specific antecedents and consequences that were hypothesized to predict or maintain the challenging behavior using indirect methods of assessment. Therefore, important relationships may be missed.
- Can be relatively time consuming because it requires the interventionist to record events in a narrative format.

**c. The Functional Assessment Direct Observation****What is the Functional Analysis Direct Observation?**

Recently, O'Neill et al. (1990) developed a direct observation system that appears to combine many of the advantages of the previously discussed direct observation systems. This system is referred to by O'Neill et al (1990) as the Functional Analysis Observation Form (See Appendix 5). This form is similar to the scatter plot format (Touchette et al., 1985) in that the grid allows the interventionist to record the occurrence of challenging behavior relative to the time of day (vertical axis). However, it is also similar to the A-B-C data collection system in that it allows the interventionist to record the occurrence of challenging behavior relative to specific setting events, antecedents, and consequences. This form also allows the interventionist to identify patterns of occurrence and nonoccurrence of the challenging behavior(s), identify relationships between and among different challenging behaviors, and speculate on the possible function of each occurrence of challenging behavior. In addition, this form is capable of collecting frequency data on the number of occurrences of behavior when behaviors are discrete.

**What types of information are derived from the Functional Analysis Direct Observation**

The following types of information are derived through the use of the Functional Analysis Direct Observation Form (O'Neill et al. 1990):

- a frequency count of the behaviors
- information on the times of day and the settings/situations in which the behaviors are not occurring
- information on the times of day and the settings/situations in which the behaviors are not occurring
- Perceived function(s) of the challenging behavior
- a record of the consequences being provided for the behaviors
- a validation of information gathered during interviews in terms of whether identified setting events or antecedents do seem to be related to the occurrence of the behaviors.

**What procedures need to be followed in order to conduct the Functional Analysis Direct Observation (O'Neill et al., 1990, p. 29)?**

Filling in the variables in the Functional Analysis Direct Observation Form

Step 1 - Write basic identifying information and date(s) of observations.

Step 2 - Label the time intervals down the left side of the form

Step 3 - List the behaviors that are to be recorded

Step 4 - List potentially relevant setting events or stimuli

Step 5 - List additional possible functions of the behaviors (if needed)

Step 6 - List the consequences that are delivered when the behaviors occur

Recording information on the Functional Analysis Direct Observation Form

Step 1 - If behaviors do not occur during a recording interval, the recorder puts initials in "comments section for that interval

Step 2 - If behaviors do occur during a recording interval:

- a. The recorder puts corresponding number in appropriate boxes in "Behavior" section
- b. The recorder puts corresponding number in appropriate boxes in "Setting Event", "Perceived Functions", and "Actual consequences" section
- c. The recorder puts initials in "Comments" section at the end of the time interval

General Recording Guidelines for the Functional Analysis Observation Form

1. If possible, document information from multiple days on a single recording form
2. If possible, document information data during at least a part of all relevant time periods during a learner's day.
3. Keep observation forms in a consistent location accessible to relevant staff
4. Document information on at least 10 to 15 occurrences of the behaviors over at least 2 to 5 days before beginning to look for patterns.

**When in the sequence of the functional assessment process would the Functional Analysis Direct Observation?**

The Functional Analysis Direct Observation should be conducted just following the functional assessment interview. This will enable the observer to retrieve pertinent information from the interview and place it on the direct observation form.

Conducting the Functional Analysis Direct Observation following the interview process enables the observer to identify the most relevant times of the day in which the learner should be observed.

**How does one go about interpreting the information obtained on the Functional Analysis Observation Form?**

On some occasions a completed Functional Analysis Direct Observation form will be easily interpreted. Clear patterns may emerge, and simply examining the completed form will lead the interventionist to determining the function of a learners challenging behavior. A number of different types of patterns may surface.

- The learner may engage in one challenging behavior that serves one function, may do so in the presence of a limited number of antecedents and staff may deliver a limited number of consequences. Figure . illustrates a Functional Analysis Direct Observation form that portrays this pattern of responding.
- The learner may engage in a number of challenging behavior, all of which serve the same function, are exhibited in the presence of a limited number of antecedents and staff may deliver a limited number of consequences.

On other occasions, the Functional Analysis Direct Observation Form may not immediately reveal clear patterns. For example, the learner may engage in multiple challenging behaviors, that serve a variety of functions. In these situations, the Functional Analysis Observation Summary form may be used to interpret the information obtained via conducting an observation, using the Functional Analysis Direct Observation Form. See Appendix 6 for explicit directions and an example of this form.

## What are the advantages and disadvantages of conducting the Functional Analysis Direct Observation?

### Advantages of Conducting a Functional Analysis Direct Observation

- Assists the interventionist in identifying and/or verifying potential antecedents/setting events, potential functions that the challenging behavior may serve for the learner, and consequences that are typically provided when the challenging behavior occurs.
- Identifies the challenging behaviors that may occur with a chain (e.g., scream, hit, bite).
- Provides a frequency count of each of the challenging behaviors being observed.
- Interval recording can also be used for collecting data on the same behavior as it occurs in several different individuals.
- Identifies possible correlations between antecedents and particular behaviors.
- Identifies possible correlations between consequences and particular behaviors.
- Identifies which behaviors might co-occur.

### Disadvantages of Conducting a Functional Analysis Direct Observation

- Learning how to use this observation system can be somewhat time consuming.
- Only provides information regarding the occurrence of a challenging behavior. Therefore, no information is obtained regarding antecedents/functions/consequences of "appropriate" behavior.

- Permits identification of chains in which particular sets of antecedents and consequences are associated with an escalation in the magnitude of challenging behavior.

In summary, there are a number of direct observation strategies available for use in the functional assessment of challenging behaviors. Each of these strategies provides a different breadth and / or depth of information. Therefore, prior to selecting any particular strategy or combination of strategies, the interventionist must consider its relative advantages and disadvantages. Some factors to consider include: (a) frequency of behavior (e.g. high vs. low), (b) breadth of data necessary (e.g. need to identify times when behavior is likely to occur vs. need to conduct an in depth analysis of variables that predict or maintain the challenging behavior), and (c) resources available to implement the assessment strategy (e.g., staff availability) (Cone & Foster, 1982).

It is important to recognize that all direct observation data is correlational and not causal (Bailey & Pyles, 1990; Mace, Lalli, & Lalli, 1991; Sasso et al., 1992; Iwata, Vollmer, & Zarcone, 1990). Therefore, it is not possible to infer causation based on direct observation. Further analysis is necessary to ascertain the actual variables that are responsible for challenging behavior. Additionally, it is important to recognize that, in some instances, direct observations in natural environments may not be sufficient in determining the variables associated with a challenging behavior. Sometimes it is difficult to isolate the specific variables that are associated with challenging. When direct observation is insufficient, the interventionist may choose to conduct an environmental manipulation.

## D. Environmental Manipulation Assessments

### What is an Environmental Manipulation?

A number of investigators have discussed the use of environmental manipulation assessments as an adjunct to direct observations and / or indirect assessments (Haynes & Wilson, 1979; Johnston & Reichle, 1993; Reichle & Johnston, 1993; Durand, 1990; O'Neill et al 1990). Environmental manipulations are also known as functional analyses in the research literature. An environmental manipulation assessment involves altering specific antecedents and/or consequences believed to be associated with the emission of a challenging behavior and then observing how these changes influence the likelihood that the learner will engage in a targeted behavior.

During antecedent environmental manipulations a specific variable (e.g., attention) is manipulated before the challenging behavior has an opportunity to be produced. For example, consider an environmental manipulation implemented to confirm that a learner's challenging behavior is attention motivated. In one condition of the assessment, a teacher may provide a learner with constant attention as the learner completes a task. In another condition of the assessment, the teacher may provide the learner with minimal attention during the same task. The presentation of the two conditions (i.e., constant and minimal attention) is noncontingent upon any behavior that the learner emits.

During consequence environmental manipulations a specific variable (e.g., attention) is manipulated after the challenging behavior occurs. For example, in one condition, the teacher delivers attention following any instance of the identified challenging behavior. In another condition, the teacher may ignore the instances of challenging behavior. The challenging behavior is documented throughout an antecedent manipulation and following the presentation of the prescribed consequence in the consequence manipulation. The occurrence of challenging behavior is then compared across conditions.

### **Why are Environmental Manipulations used?**

Environmental manipulation assessments are a helpful means of testing hypotheses of the function or functions that challenging behavior serves. These hypotheses are generated after obtaining other functional assessment information (e.g., MAS, Functional Analysis Interview, ABC Analysis, Scatterplots, Functional Analysis Direct Observation) that can help narrow down the variables that influence the occurrence and nonoccurrence of the challenging behavior. When the hypothesized functions cannot be adequately confirmed from other functional assessment techniques, an environmental manipulation becomes useful. Environmental manipulations can be most useful with behaviors that are not dangerous or life-threatening, and that occur frequently (e.g., several times per day), at predictable times of day, or during predictable activities. Due to the risk of provoking challenging behavior, it is important that the interventionist is well-trained and have the resources necessary to keep all participants of an environmental manipulation safe.

Environmental manipulations are implemented very systematically so that only one aspect (e.g., amount of attention) of the person's environment is varied. The effects of the manipulation on the behavior of each of the two conditions is inspected. Each condition (that includes multiple opportunities) is repeated at least once. If an interventionist's hypothesis of the function of behavior is correct, one of the conditions presented will have a greater effect on the behavior. For instance, if it is hypothesized that a person engages in challenging behavior to gain attention from staff, the environmental manipulation may reveal that the person engages in higher rates of challenging behavior during a condition where staff deliver a low amount of attention (e.g., 5 instances of verbal interaction within 60 minutes). Alternately, the person may engage in low rates of challenging behavior during a condition where staff deliver a high rate of challenging behavior (e.g., 30 instances of verbal interaction within 60 minutes). If these effects could be demonstrated during a second presentation of the conditions, a causal relationship between the level of attention and the rates of challenging behavior emitted by the person can be inferred.

### **When in the sequence of functional assessment would it be appropriate to implement Environmental Manipulations?**

Environmental manipulations are usually conducted after all other functional assessment information is obtained (e.g., interview, direct observation) and when this information does not provide evidence that strongly supports a specific function of behavior.

However, some (Wacker, Steege, Northup, Reimers, Berg, & Sasso, 1990), have conducted environmental manipulations and other assessment strategies concurrently. This strategy was adopted in response to a great demand for behavioral assessment and consultative services in Iowa. These assessment and consultative services are provided on an outpatient basis and require the patients to travel up to 200 miles. Because of these circumstances, the implementation of assessment procedures and the development of intervention recommendations must occur in a short period of time.

### **Factors to be Examined Before Conducting Environmental Manipulations.**

O'Neill et al (1990) outlined a number of factors that should be examined prior to implementing environmental manipulations. Included among these factors are;

- Environmental manipulation conditions should only be used when it is possible for the interventionist to manipulate the potentially relevant variables,
- The potential benefits of this procedure should be weighed against the potential risks to the individual, as well as, other involved people,
- Environmental manipulation conditions should only be implemented after receiving the required consent for its implementation, and
- Strategies should be developed and utilized to ensure the safety of both the individual, the interventionist and others in the environment.

## What procedures need to be followed in order to conduct environmental manipulations?

It is important to take the time to set up an environmental manipulation in such a way that it will test your hypothesis regarding the function of the behavior and eliminate the possibility that extraneous variables may influence the behavior as you implement the environmental manipulation. The Environmental Manipulation Form found in Appendix Z, was developed to assist in the process of conducting an environmental manipulation. The directions and steps that must be followed when completing the Environmental Manipulation Form can be found in Appendix 8. Key reminders when conducting an environmental manipulation are:

- Select only one challenging behavior to assess.
- Select one hypothesis regarding the function of the behavior to test or verify.
- Select only one variable, based on the hypothesized function, to manipulate.
- Hold all other variables constant across the two implementation conditions.
- Know and visualize how each of the implementation conditions will affect or influence the behavior if your hypothesis is correct.

Typically, the variables used to conduct environmental manipulations are identified via an indirect assessment or direct observation assessment. One variable is used to develop procedures for two implementation conditions. These implementation conditions can be presented using two different designs. First, an Alternating Condition Design could be used. Using this design, the conditions are presented concurrently during a given time period (e.g., each day). At least two equivalent opportunities to manipulate the identified variable are identified (e.g., delivering task demands) during a given time period. During one of the opportunities, the variable is manipulated as specified in Condition A. During the other opportunity, the variable is manipulated as specified in Condition B. The presentation of Condition A and Condition B opportunities is randomized (i.e., the condition presented first is selected by chance) or counterbalanced (i.e., both conditions are presented first an equal number of times).

Second, an A,BAB design, also known as a reversal design, can be used. The A and B of this design represents the two conditions. Condition A is presented for a period of time or for a number of opportunities and then Condition B is presented for a comparable period of time or number of opportunities. Once both have been presented, each of the conditions are presented once more. This design serves to verify the effects that Conditions A and B have had on the behavior by attempting to replicate these effects. This design is used when it is not possible to present both conditions during the same time frame, as in the Alternating Condition Design.

The effect of the manipulation of the variable on the individual's behavior is documented and the interventionist compares the obtained behavioral effects with the proposed data display for a correct hypothesis. If the obtained data display closely resembles the hypothesized data display, the hypothesized of the function of the behavior has been verified. If the obtained data display does not resemble the hypothesized data display, the interventionist must re-examine the procedures, the quality of the variable manipulated, and possibly the variable itself. In fact, the selection of a new variable to manipulate may be warranted.

### **What are the advantages and disadvantages of using Environmental Manipulations to verify the function of challenging behavior?**

#### **Advantages of Environmental Manipulations**

- Enables the interventionist to validate hypotheses regarding the functions that the behavior serves and identify events that reinforce or maintain the behavior.
- Enables the interventionist to identify the relative influence of a behavior that serves multiple functions.
- Enables the interventionist to eliminate variables and events from a list of those thought to influence the behavior

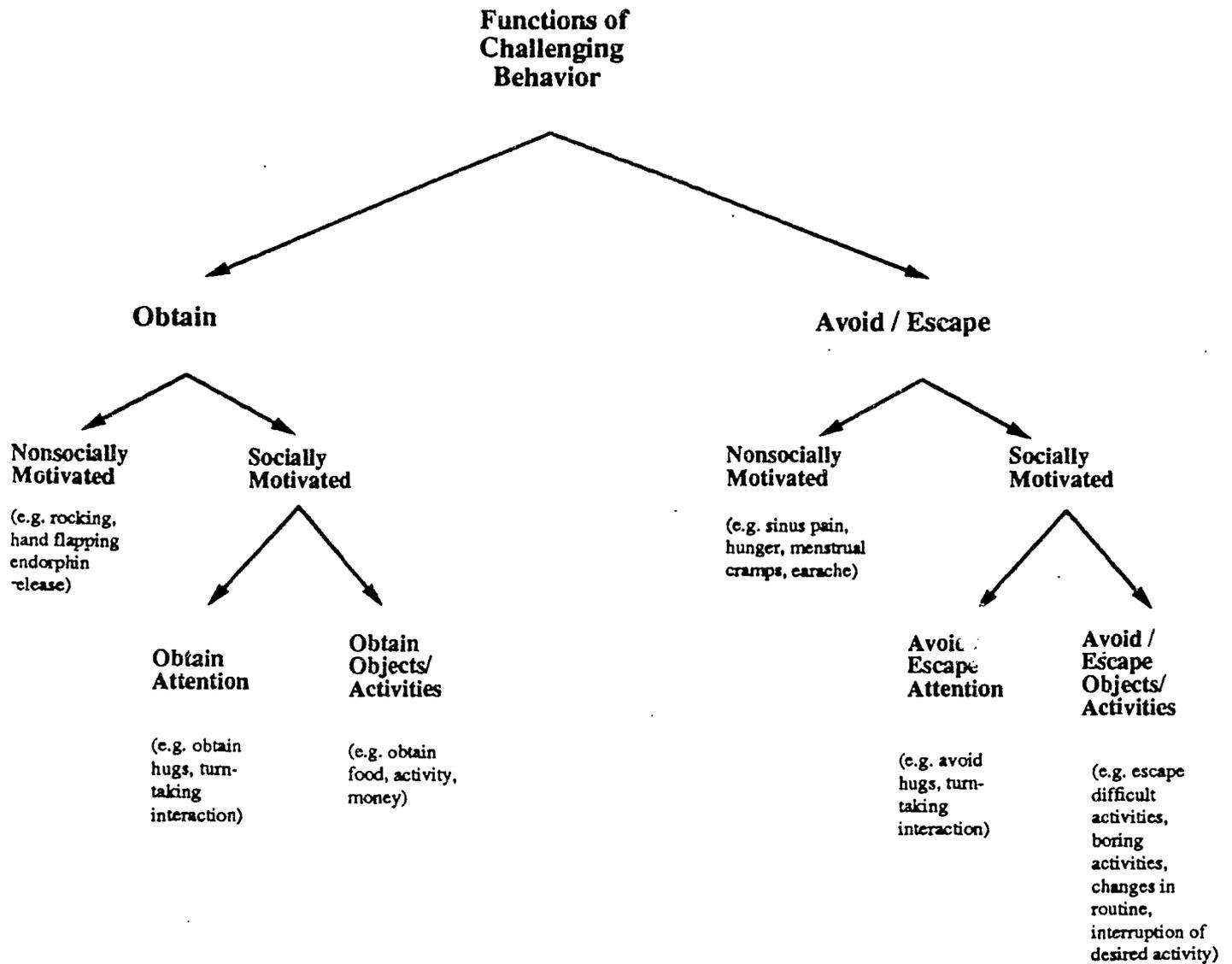
#### **Disadvantages of Environmental Manipulations**

- Implementation of Environmental Manipulations may provoke challenging behavior that is harmful or disruptive to the learner or others in the environment.
- Initial manipulations may fail to verify the hypothesized function of behavior. As a result further manipulations may need to be implemented.

#### IV. Summary

In summary, the available literature suggests that determining the function of a challenging behavior and subsequently designing an intervention based on that function can result in a decrease in the challenging behavior. The process that has been used to obtain information regarding the function of a challenging behavior is referred to as a functional assessment (e.g., Durand, 1991; Len &, 1989; Horner, Albino, & Sprague, 1990). A functional assessment is a process of determining the relationship between events in a person's environment and the occurrence of challenging behaviors. A number of methods have been discussed for collecting functional assessment information. These functional assessment methods can be divided into the categories of; indirect assessments, direct observations assessments, and analog assessments. The decision regarding which method or combination of methods should be used will depend upon factors such as; the frequency of the behavior, the information needed to meet the goals of a functional assessment, and the resources (e.g., staff time) available.

Figure 1  
**Functions of Challenging Behavior**



Note. Adapted from **Functional analysis of problem behavior: A practical assessment guide**, (p.13) by R. E. O'Neill, R.H. Horner, R.W. Albin, K. Storey, & J. Sprague, 1990, Sycamore, IL: Sycamore Publishing Company. Copyright 1990 by Sycamore Publishing Company. Adapted by permission.

Fig 2

**Motivation Assessment Scale**  
**Adapted For Use By Early Childhood Interventionists**

Name Jane      Rat KF      Date 4/10/95  
 Behavior Description Wanes hand repeatedly in front of her face  
 Setting Description Preschool classroom during all activities

Instructions: The Motivation Assessment Scale is a questionnaire designed to identify those situations in which a child is likely to behave in certain ways. From this information, more informed decisions can be made concerning the selection of appropriate reinforcers and interventions. To complete the Motivation Assessment Scale, select one behavior that is of particular interest. It is important that you identify the behavior *very specifically*. *Aggressive*, for example, is not as good a description as *hits his sister*. Once you have specified the behavior to be rated, read each question carefully and circle the one number that best describes your observations of this behavior.

**QUESTIONS**

**ANSWERS**

- |   |            |                             |                    |                       |              |                              |             |
|---|------------|-----------------------------|--------------------|-----------------------|--------------|------------------------------|-------------|
| 1. Would the behavior occur continuously, over and over, if this child was left alone for long periods of time? (For example, 20 minutes.)  | Never<br>0 | Almost<br>Never<br>1        | Seldom<br>2        | Half the<br>Time<br>3 | Usually<br>4 | Almost<br>Always<br><u>5</u> | Always<br>6 |
| 2. Does the behavior occur after you ask the child to do something difficult?   | Never<br>0 | Almost<br>Never<br><u>1</u> | Seldom<br>2        | Half the<br>Time<br>3 | Usually<br>4 | Almost<br>Always<br>5        | Always<br>6 |
| 3. Does the behavior occur when you are talking to other adults or children in the room?  | Never<br>0 | Almost<br>Never<br>1        | Seldom<br><u>2</u> | Half the<br>Time<br>3 | Usually<br>4 | Almost<br>Always<br>5        | Always<br>6 |
| 4. Does the behavior ever occur to get a toy, food, or activity that this child has been told that he or she can't have?  | <u>0</u>   | Almost<br>Never<br>1        | Seldom<br>2        | Half the<br>Time<br>3 | Usually<br>4 | Almost<br>Always<br>5        | Always<br>6 |
| 5. Do you think that the behavior would occur repeatedly, in the same way, for very long periods of time, if no one was around? (For example, rocking back and forth for 20 minutes.) | Never<br>0 | Almost<br>Never<br>1        | Seldom<br>2        | Half the<br>Time<br>3 | Usually<br>4 | Almost<br>Always<br><u>5</u> | Always<br>6 |
| 6. Does the behavior occur when you ask the child to do something?  | Never<br>0 | Almost<br>Never<br><u>1</u> | Seldom<br>2        | Half the<br>Time<br>3 | Usually<br>4 | Almost<br>Always<br>5        | Always<br>6 |
| 7. Does the behavior occur whenever you stop looking at or talking to the child?  | Never<br>0 | Almost<br>Never<br>1        | Seldom<br><u>2</u> | Half the<br>Time<br>3 | Usually<br>4 | Almost<br>Always<br>5        | Always<br>6 |
| 8. Does the behavior occur when you take away a favorite toy, food or activity?   | <u>0</u>   | Almost<br>Never<br>1        | Seldom<br>2        | Half the<br>Time<br>3 | Usually<br>4 | Almost<br>Always<br>5        | Always<br>6 |

Adapted from Durand, V. M. (1988). The Motivation Assessment Scale. In M. Hersen & A. Bellack (Eds.), Dictionary of behavioral assessment techniques (pp. 309-310). Elmsford, NY: Pergamon.

Fig. 2 continued

- |   |            |                      |             |                       |              |                       |             |
|---|------------|----------------------|-------------|-----------------------|--------------|-----------------------|-------------|
| 9. Does it appear to you that this child enjoys performing the behavior?  | Never<br>0 | Almost<br>Never<br>1 | Seldom<br>2 | Half the<br>Time<br>3 | Usually<br>4 | Almost<br>Always<br>5 | Always<br>6 |
| 10. Does this child seem to do the behavior to upset or annoy you when you are trying to get him or her to do what you ask?   | Never<br>0 | Almost<br>Never<br>1 | Seldom<br>2 | Half the<br>Time<br>3 | Usually<br>4 | Almost<br>Always<br>5 | Always<br>6 |
| 11. Does this child seem to do the behavior to upset or annoy you when you are not paying attention to him or her? (For example, if you are sitting on the opposite side of the room, interacting with another person.) | Never<br>0 | Almost<br>Never<br>1 | Seldom<br>2 | Half the<br>Time<br>3 | Usually<br>4 | Almost<br>Always<br>5 | Always<br>6 |
| 12. Does the behavior stop occurring shortly after you give this child the toy, food or activity he or she has requested?   | Never<br>0 | Almost<br>Never<br>1 | Seldom<br>2 | Half the<br>Time<br>3 | Usually<br>4 | Almost<br>Always<br>5 | Always<br>6 |
| 13. When the behavior is occurring, does this child seem calm and unaware of anything else going on around him or her?  | Never<br>0 | Almost<br>Never<br>1 | Seldom<br>2 | Half the<br>Time<br>3 | Usually<br>4 | Almost<br>Always<br>5 | Always<br>6 |
| 14. Does the behavior stop occurring shortly after (one to five minutes) you stop requesting or prompting this child to do things (e.g., clean up toys, engage in a difficult task, etc.)?                              | Never<br>0 | Almost<br>Never<br>1 | Seldom<br>2 | Half the<br>Time<br>3 | Usually<br>4 | Almost<br>Always<br>5 | Always<br>6 |
| 15. Does this child seem to do the behavior to get you to spend some time with him or her?  | Never<br>0 | Almost<br>Never<br>1 | Seldom<br>2 | Half the<br>Time<br>3 | Usually<br>4 | Almost<br>Always<br>5 | Always<br>6 |
| 16. Does the behavior seem to occur when this child has been told that he or she can't do something he or she had wanted to do?   | Never<br>0 | Almost<br>Never<br>1 | Seldom<br>2 | Half the<br>Time<br>3 | Usually<br>4 | Almost<br>Always<br>5 | Always<br>6 |

	Sensory	Escape	Attention	Tangible
1.	5	1	2	0
5.	5	1	2	0
9.	6	0	0	1
13.	6	1	1	0
Total Score =	22	3	5	1
Mean Score =	5.5	.75	1.25	.5
Relative Ranking =	1	3	2	4

Adapted from Durand, V. M. (1988). The Motivation Assessment Scale. In M. Hersen & A. Bellack (Eds.), Dictionary of behavioral assessment techniques (pp. 309-310). Elmsford, NY: Pergamon.



Motivation Assessment Scale  
Adapted For Use By Early Childhood Interventionists

Name: Greg Rater: C.L. Date: 10/1/93  
 Behavior Description: Running away from table tasks after only 10-15 seconds of participation  
 Setting Description: Seated at a table with academic related or fine motor tasks present

Instructions: The Motivation Assessment Scale is a questionnaire designed to identify those situations in which a child is likely to behave in certain ways. From this information, more informed decisions can be made concerning the selection of appropriate reinforcers and interventions. To complete the Motivation Assessment Scale, select one behavior that is of particular interest. It is important that you identify the behavior very specifically. Aggressive, for example, is not a good description as *hit his sister*. Once you have specified the behavior to be rated, read each question carefully and circle the one number that best describes your observations of this behavior.

QUESTIONS

1. Would the behavior occur continuously, over and over, if this child was left alone for long periods of time? (For example, 20 minutes.)  
 Never  0 Almost Never 1 Seldom 2 Usually 3 Half the Time 4 Usually 5 Almost Always 6
2. Does the behavior occur after you ask the child to do something difficult?  
 Never 0 Almost Never 1 Seldom 2 Usually 3 Half the Time 4 Usually 5 Almost Always 6
3. Does the behavior occur when you are talking to other adults or children in the room?  
 Never 0 Almost Never 1 Seldom 2 Usually 3 Half the Time 4 Usually 5 Almost Always 6
4. Does the behavior ever occur to get a toy, food, or activity that this child has been told that he or she can't have?  
 Never  0 Almost Never 1 Seldom 2 Usually 3 Half the Time 4 Usually 5 Almost Always 6
5. Do you think that the behavior would occur repeatedly, in the same way, for very long periods of time, if no one was around? (For example, rocking back and forth for 20 minutes.)  
 Never  0 Almost Never 1 Seldom 2 Usually 3 Half the Time 4 Usually 5 Almost Always 6
6. Does the behavior occur when you ask the child to do something?  
 Never 0 Almost Never 1 Seldom 2 Usually 3 Half the Time 4 Usually 5 Almost Always 6
7. Does the behavior occur whenever you stop looking at or talking to the child?  
 Never 0  1 Almost Never 2 Seldom 3 Usually 4 Usually 5 Almost Always 6
8. Does the behavior occur when you take away a favorite toy, food or activity?  
 Never 0  1 Almost Never 2 Seldom 3 Usually 4 Usually 5 Almost Always 6

Adapted from Durand, V. M. (1988). The Motivation Assessment Scale. In M. Hersen & A. Bellack (Eds.), Dictionary of behavioral assessment techniques (pp. 309-310). Elmsford, NY: Pergamon.

9. Does it appear to you that this child enjoys performing the behavior?  
 Never 0 Almost Never 1 Seldom 2 Usually 3 Half the Time 4 Usually 5 Almost Always 6
10. Does this child seem to do the behavior to upset or annoy you when you are trying to get him or her to do what you ask?  
 Never 0 Almost Never 1 Seldom 2 Usually 3 Half the Time 4 Usually 5 Almost Always 6
11. Does this child seem to do the behavior to upset or annoy you when you are not paying attention to him or her? (For example, if you are sitting on the opposite side of the room, interacting with another person.)  
 Never 0 Almost Never 1 Seldom 2 Usually 3 Half the Time 4 Usually 5 Almost Always 6
12. Does the behavior stop occurring shortly after you give this child the toy, food or activity he or she has requested?  
 Never 0 Almost Never 1 Seldom 2 Usually 3 Half the Time 4 Usually 5 Almost Always 6
13. When the behavior is occurring, does this child seem calm and unaware of anything else going on around him or her?  
 Never  0 Almost Never 1 Seldom 2 Usually 3 Half the Time 4 Usually 5 Almost Always 6
14. Does the behavior stop occurring shortly after (one to five minutes) you stop requesting or prompting this child to do things (e.g., clean up toys, engage in a difficult task, etc.)?  
 Never 0 Almost Never 1 Seldom 2 Usually 3 Half the Time 4 Usually 5 Almost Always 6
15. Does this child seem to do the behavior to get you to spend some time with him or her?  
 Never 0 Almost Never 1 Seldom 2 Usually 3 Half the Time 4 Usually 5 Almost Always 6
16. Does the behavior seem to occur when this child has been told that he or she can't do something he or she had wanted to do?  
 Never 0  1 Almost Never 2 Seldom 3 Usually 4 Usually 5 Almost Always 6

	Sensory	Escape	Attention	Tangible
1.	0	2	5	4
5.	0	5	4	8
9.	6	10	5	12
13.	0	14	5	16
Total =	6	23	19	6
Mean =	1.5	5.75	4.75	1.5
Relative =	4	1	2	3

Adapted from Durand, V. M. (1988). The Motivation Assessment Scale. In M. Hersen & A. Bellack (Eds.), Dictionary of behavioral assessment techniques (pp. 309-310). Elmsford, NY: Pergamon.

Figure 4

### Setting Event Checklist for Greg

Name: Greg

Date: 9-24-94

Completed by: Mom

Check any of the following events that occurred this morning or during the night.

	Yes	No
Slept for fewer than 6 hours	<u>      </u>	<u>  x  </u>
Appears sleepy	<u>      </u>	<u>  x  </u>
Was not offered choices on what to wear/eat	<u>      </u>	<u>  x  </u>
Was refused some desired item/object/activity	<u>      </u>	<u>  x  </u>
Showed signs of illness	<u>      </u>	<u>  x  </u>
Was disciplined/reprimanded	<u>  x  </u>	<u>      </u>
Bus was late	<u>  x  </u>	<u>      </u>



**Motivation Assessment Scale**  
**Adapted For Use By Early Childhood Interventionists**

Name \_\_\_\_\_ Rater \_\_\_\_\_ Date \_\_\_\_\_

Behavior Description \_\_\_\_\_

Setting Description \_\_\_\_\_

Instructions: The Motivation Assessment Scale is a questionnaire designed to identify those situations in which a child is likely to behave in certain ways. From this information, more informed decisions can be made concerning the selection of appropriate reinforcers and interventions. To complete the Motivation Assessment Scale, select one behavior that is of particular interest. It is important that you identify the behavior *very specifically*. *Aggressive*, for example, is not as good a description as *hits his sister*. Once you have specified the behavior to be rated, read each question carefully and circle the one number that best describes your observations of this behavior.

**QUESTIONS**

**ANSWERS**

1. Would the behavior occur continuously, over and over, if this child was left alone for long periods of time? (For example, 20 minutes.)	Never 0	Almost Never 1	Seldom 2	Half the Time 3	Usually 4	Almost Always 5	Always 6
2. Does the behavior occur after you ask the child to do something difficult?	Never 0	Almost Never 1	Seldom 2	Half the Time 3	Usually 4	Almost Always 5	Always 6
3. Does the behavior occur when you are talking to other adults or children in the room?	Never 0	Almost Never 1	Seldom 2	Half the Time 3	Usually 4	Almost Always 5	Always 6
4. Does the behavior ever occur to get a toy, food, or activity that this child has been told that he or she can't have?	Never 0	Almost Never 1	Seldom 2	Half the Time 3	Usually 4	Almost Always 5	Always 6
5. Do you think that the behavior would occur repeatedly, in the same way, for very long periods of time, if no one was around? (For example, rocking back and forth for 20 minutes.)	Never 0	Almost Never 1	Seldom 2	Half the Time 3	Usually 4	Almost Always 5	Always 6
6. Does the behavior occur when you ask the child to do something?	Never 0	Almost Never 1	Seldom 2	Half the Time 3	Usually 4	Almost Always 5	Always 6
7. Does the behavior occur whenever you stop looking at or talking to the child?	Never 0	Almost Never 1	Seldom 2	Half the Time 3	Usually 4	Almost Always 5	Always 6
8. Does the behavior occur when you take away a favorite toy, food or activity?	Never 0	Almost Never 1	Seldom 2	Half the Time 3	Usually 4	Almost Always 5	Always 6

Adapted from Durand, V. M. (1988). The Motivation Assessment Scale. In M. Hersen & A. Bellack (Eds.), Dictionary of behavioral assessment techniques (pp. 309-310). Elmsford, NY: Pergamon.

9. Does it appear to you that this child enjoys performing the behavior?	Never 0	Almost Never 1	Seldom 2	Half the Time 3	Usually 4	Almost Always 5	Always 6
10. Does this child seem to do the behavior to upset or annoy you when you are trying to get him or her to do what you ask?	Never 0	Almost Never 1	Seldom 2	Half the Time 3	Usually 4	Almost Always 5	Always 6
11. Does this child seem to do the behavior to upset or annoy you when you are not paying attention to him or her? (For example, if you are sitting on the opposite side of the room, interacting with another person.)	Never 0	Almost Never 1	Seldom 2	Half the Time 3	Usually 4	Almost Always 5	Always 6
12. Does the behavior stop occurring shortly after you give this child the toy, food or activity he or she has requested?	Never 0	Almost Never 1	Seldom 2	Half the Time 3	Usually 4	Almost Always 5	Always 6
13. When the behavior is occurring, does this child seem calm and unaware of anything else going on around him or her?	Never 0	Almost Never 1	Seldom 2	Half the Time 3	Usually 4	Almost Always 5	Always 6
14. Does the behavior stop occurring shortly after (one to five minutes) you stop requesting or prompting this child to do things (e.g., clean up toys, engage in a difficult task, etc.)?	Never 0	Almost Never 1	Seldom 2	Half the Time 3	Usually 4	Almost Always 5	Always 6
5. Does this child seem to do the behavior to get you to spend some time with him or her?	Never 0	Almost Never 1	Seldom 2	Half the Time 3	Usually 4	Almost Always 5	Always 6
16. Does the behavior seem to occur when this child has been told that he or she can't do something he or she had wanted to do?	Never 0	Almost Never 1	Seldom 2	Half the Time 3	Usually 4	Almost Always 5	Always 6

	Sensory	Escape	Attention	Tangible
1.	_____	2. _____	3. _____	4. _____
5.	_____	6. _____	7. _____	8. _____
9.	_____	10. _____	11. _____	12. _____
13.	_____	14. _____	15. _____	16. _____
Total Score =	_____	_____	_____	_____
Mean Score =	_____	_____	_____	_____
Relative ranking =	_____	_____	_____	_____

Adapted from Durand, V. M. (1988). The Motivation Assessment Scale. In M. Hersen & A. Bellack (Eds.), Dictionary of behavioral assessment techniques (pp. 309-310). Elmsford, NY: Pergamon.



Client: \_\_\_\_\_ Date: \_\_\_\_\_ Completed by: \_\_\_\_\_

Check any of the following events that occurred last evening (pm) or this morning prior to work (am).

	AM	PM
Was informed of something unusually disappointing	—	—
Was refused some requested object/activity	—	—
Fought, argued, or had negative interaction(s)	—	—
Was disciplined/reprimanded (behavior or disciplinary action was atypical)	—	—
Was hurried or rushed more than usual	—	—
Sleep pattern (including duration) was unusual	—	—
Was under the care of someone new/favorite caretaker was absent	—	—
Experienced other major changes in living environment	—	—
Learned about visit/vacation with family/friends (will or will not occur)	—	—
Visitors arrived/failed to arrive	—	—
Medications were changed/missed	—	—
Has menstrual period	—	—
Appeared excessively tired/lethargic	—	—
Appeared excessively agitated	—	—
Appeared to be in bad mood	—	—
Appeared/complained of being ill	—	—
Other ( _____ )	—	—

Setting Event Checklist. From "Reducing Aggression in Individuals with Developmental Disabilities: An Expanded Stimulus Control, Assessment, and Intervention Model" by W. I. Gardner, C. L. Cole, D. P. Davidson, and O. C. Karan, 1986, *Education and Training of the Mentally Retarded*, 21, p. 7. Copyright 1986 by Education and Training of the Mentally Retarded.

**FUNCTIONAL ANALYSIS INTERVIEW FORM**

Child Greg B.D. 6-9-87  
 Case Manager Cheryl Interviewer K. F. Date 3-24-94

**A. DEFINE THE BEHAVIOR**

Please provide a very specific description of the behavior(s) of concern. For example, if a child acts aggressively, note the exact behavior s/he emits (e.g., punches, pushes, pinches). In addition, refer to the following definitions when describing each challenging behavior.

Duration: The length of time that the challenging behavior occurs during a single episode. For example, how many minutes will the child tantrum when not provided with a favorite toy?

Frequency: The number of times that the behavior occurs within a specific period of time. For example, how often does the behavior occur per hour, day or week?

Behavior #1: learning table tasks

a. Description: Greg begins to squirm in his seat and then darts from the table

Duration: 5-10 seconds

Frequency: 2-3 times during an activity

b. When the behavior occurs I: (fill in the blank and circle the the item that best describes how consistently you do this)

- push his chair in frequently sometimes rarely
- physically hold him frequently sometimes rarely
- chase after him frequently sometimes rarely

c. Programs that have been implemented to address this behavior in the past:

Date From/to	Intervention	Outcome
9/93 - 10/93	Ignored him	continued to engage in the behavior
10/93 - 12/93	Time-out (had him sit in the corner of the room)	did not result in a decrease in behavior

Parts of this interview were adapted from O'Neill et al. (1990).

Behavior #2: Destroying materials

a. Description: bending materials, pushing them off the table

Duration: 5-10 sec.

Frequency: 1-2 times during academic activities

b. When the behavior occurs I: (fill in the blank and circle the the item that best describes how consistently you do this)

- ignore frequently sometimes rarely
- have him pick up materials frequently sometimes rarely
- end the task frequently sometimes rarely

c. Programs that have been implemented to address this behavior in the past:

Date From/to	Intervention	Outcome
9/93 - 10/93	ignored his pushing of materials	did not decrease the behavior
10/93 - 12/93	time-out (had him sit in the corner of the room)	no decrease in behavior

Behavior #3: \_\_\_\_\_

a. Description: \_\_\_\_\_

Duration: \_\_\_\_\_

Frequency: \_\_\_\_\_

b. When the behavior occurs I: (fill in the blank and circle the the item that best describes how consistently you do this)

- \_\_\_\_\_ frequently sometimes rarely
- \_\_\_\_\_ frequently sometimes rarely
- \_\_\_\_\_ frequently sometimes rarely

c. Programs that have been implemented to address this behavior in the past:

Date From/to	Intervention	Outcome

Parts of this interview were adapted from O'Neill et al. (1990).



## B. MOTIVATION ASSESSMENT SCALE

The following directions correspond to each of the attached rating scales. Please complete one for each of the behaviors previously described.

To complete the Motivation Assessment Scale, select behaviors that are of particular interest. It is important that you identify the behavior very specifically. Aggressive, for example, is not as good a description as hits his sister. Once you have specified the behaviors to be rated, complete one rating scale per behavior. Read each question carefully and circle the one number that best describes your observations of this behavior.

Parts of this interview were adapted from O'Neill et al. (1990).

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**C. DEFINE EVENTS AND SITUATIONS THAT PREDICT OCCURRENCES OF THE BEHAVIORS**

1. During what times/activities of the day does the child often not engage in the challenging behavior?

*During gym, snack, recess, lunch, music*

2. What is the one thing that you could do that would likely cause the behavior to occur?

*ask Greg to participate in a matching task that is novel and difficult*

3. Are there any signals that the behavior may be about to occur? (e.g., becomes restless, begins to speak loudly, begins running, etc.)

*Greg will sometimes stop his work, look around the room and then start "squirming" in his seat.*

4. Do any of the behaviors you listed occur together? For example, occur at the same time, in a predictable "chain", or occur in response to the same situation? Please describe.

*many times Greg will begin by pushing the materials away and then if this doesn't result in the termination of the activity, he will often dart from his seat.*

5. Is there anything that you attempt to do to prevent the learner from engaging in the challenging behaviors?

*We try to make the activity lots of fun. For example, sometimes we'll sing Greg's favorite song while working with him.*

6. Do any of the following affect the child's behavior (check those that apply and please comment):

	<u>positively</u>	<u>negatively</u>
large open room	_____	_____ /
small confined room	_____ / (less distracted)	_____
unstructured activities	_____ /	_____
child directed	_____ /	_____
adult directed	_____	_____ /
number of children	_____	_____ /
number of adults	_____ /	_____
proximity of children	_____	_____ /
proximity of adults	_____ /	_____

Parts of this interview were adapted from O'Neill et al. (1990).

7. Please **attach a copy** of the class schedule and the child's IEP/IFSP.

**D. LEARNING CHARACTERISTICS**

1. What is the approximate cognitive level of the child? Please check one and describe.

\_\_\_\_\_ significantly below average

well below average

\_\_\_\_\_ average

\_\_\_\_\_ above average

2. Describe functional skills and activities that the child performs independently.

*Greg will independently match up to 4 pictures on a 3x3 lotto board. He independently dresses himself, toilets and feeds himself.*

3. Is the child able to imitate a verbal/physical model for various tasks?

*He is able to imitate a physical model but not a verbal model. He will imitate signs, gestures, & gross motor movements during songs.*

4. Describe the level of assistance (e.g., verbal, gestural physical) to which the child often responds and describe those in which he or she openly resists.

*Greg responds well to both verbal and gestural prompts. He sometimes resists physical prompts.*

**E. CHILD PREFERENCES**

1. List preferred and non preferred activities in the corresponding columns below (e.g., foods, toys, people, activities). Please estimate the child's attention span in terms of seconds or minutes when engaged in each activity.

Activities	Circle Preference			Child's typical attention span in activity
<i>gross motor</i>	<input checked="" type="radio"/> Preferred	<input type="radio"/> Neutral	<input type="radio"/> Nonpreferred	<i>15-20 minutes</i>
<i>eating</i>	<input checked="" type="radio"/> Preferred	<input type="radio"/> Neutral	<input type="radio"/> Nonpreferred	<i>20-30 minutes</i>
<i>watching movie videos</i>	<input checked="" type="radio"/> Preferred	<input type="radio"/> Neutral	<input type="radio"/> Nonpreferred	<i>20-30 minutes</i>
<i>academic tasks</i>	<input type="radio"/> Preferred	<input type="radio"/> Neutral	<input checked="" type="radio"/> Nonpreferred	<i>2-3 minutes</i>
<i>art activities</i>	<input type="radio"/> Preferred	<input type="radio"/> Neutral	<input checked="" type="radio"/> Nonpreferred	<i>2-3 minutes</i>
<i>circle time</i>	<input type="radio"/> Preferred	<input checked="" type="radio"/> Neutral	<input type="radio"/> Nonpreferred	<i>5 minutes.</i>
_____	<input type="radio"/> Preferred	<input type="radio"/> Neutral	<input type="radio"/> Nonpreferred	_____
_____	<input type="radio"/> Preferred	<input type="radio"/> Neutral	<input type="radio"/> Nonpreferred	_____

Parts of this interview were adapted from O'Neill et al. (1990).

**F. DEFINE THE PRIMARY METHODS USED BY THE CHILD TO COMMUNICATE**

1. Indicate which behaviors the child uses to achieve the following functions by placing a check in each cell that applies:

Communicative Function	Communication Strategy					
	Verbal	Gestures / Signs	Symbols (e.g., objects, pictures)	Electronic Comm. Aid	Facial Expression	Challenging Behavior
<b>Requesting</b>						
food/objects/activities		✓	✓			✓
attention						✓
assistance						✓
permission						✓
a break						✓
<b>Rejecting</b>						
food/objects/activities						✓
attention						✓
assistance						✓
<b>Commenting</b>						
on a person/place/ thing		✓				
indicate physical pain					✓	✓
indicate confusion					✓	
answer		✓				
greet		✓			✓	
acknowledge		✓			✓	

2. If the child does not have adequate verbal skills, describe how often the child identifies each of the following symbolic representations by placing a check in the appropriate column.

	Consistently	Possibly	Never
Miniature/Parts of objects	_____	_____ ✓ _____	_____
Product logos	_____ ✓ _____	_____	_____
Photographs	_____ ✓ _____	_____	_____
Line drawings	_____ ✓ _____	_____	_____
Written words	_____	_____	_____ ✓ _____

Parts of this interview were adapted from O'Neill et al. (1990).

3. Please list requests and instructions that the child follows.

Generally, Greg will follow requests such as sit down, come, go to —, get the —, etc.

4. Please list each of the signs or gestures to which the child respond.

go, sit, come, work, wait, eat, drink, help,

5. How does the child demonstrate that s/he understands and can predict the daily routine/schedule?

Greg will go right to the circle corner after he removes his coat, when the other students line up for lunch he gets in line, and at the end of the day, he will go by his cubby to get his coat and book bag.

6. How would you describe the child's concept of time? Does the child understand concepts such as "later", "in a minute", "tomorrow" and contingencies?

Greg appears to understand "wait" but he does not appear to understand any other time related concept.

7. Please describe activities, where the child is provided choice-making opportunities.

Greg is provided choice-making opportunities during snack (e.g. food + drink items) and leisure time (e.g. he selects his own toys).

## G. BACKGROUND INFORMATION

1. Does the child have any medical conditions or diagnosis? If so please describe.

Greg has been diagnosed with Cornelia de Lange Syndrome. He also experiences ongoing difficulties with constipation and abdominal cramps. A gastroenterologist has verified that Greg's challenging behaviors may occur as the result of pain that he may experience.

Parts of this interview were adapted from O'Neill et al. (1990).

2. Does the child receive any medications?

no medication, attempt to maintain a high fiber diet

If the information is available to you, please indicate the name, dosage and side effects that may impact behavior.

3. Age that early intervention services began and the service delivery model in which s/he participated (e.g., home based, center based).

Services for Greg began when he was 18 months old

4. Where does the child spend the rest of his or her day?

at home

5. Describe the family constellation and issues that may relate to the child's behavior.

Greg has one older brother, both of Greg's parents work outside the home

6. Do any of the following affect the child's behavior, or are there special considerations that are relevant to this child's educational plan (please describe)?

- a. sleep patterns Greg frequently only sleeps 1-2 hours during the night (when his constipation cannot be relieved)
- b. eating routines  
no, he eats well
- c. other

Developing and Evaluating a Model of Inservice and Technical Assistance to Prevent Challenging Behavior in Preschoolers, Grant # HO24P10017.

Parts of this interview were adapted from O'Neill et al. (1990).



Name \_\_\_\_\_

# Functional Analysis Observation Form

Date: from \_\_\_\_\_ to \_\_\_\_\_

Time	Behaviors		Antecedents/Setting Events							FUNCTIONS					Actual Consequences		Comments: if nothing happened in period, write initials				
	Demand/Req.	Difficult task	Interruption	Transition (Settings)	Transition (Task / task)	Alone	Attention	Item/Activity	Self-Stim.	Obtain	On and/Req.	Activity	Person	Escape	Don't Know	Ignore					
1																					
2																					
3																					
4																					
5																					
6																					
7																					
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O'Neill et al. (1990)





## Functional Assessment Direct Observation Summary Form

### Directions for Use:

Note: In order to complete this form, a direct observation of the learner must be conducted using the *Functional Assessment Direct Observation Form*.

- Step 1 Note the learner's name and the name of the individual who performed the direct observation ("Observer") on the corresponding lines in the right and left top corners of the form.
- Step 2 Note each of the challenging behaviors derived from the functional assessment interview and direct observation in the top of each column on the line labeled "Behavior".
- Step 3 Concentrating on only one challenging behavior at a time, work from the top to the bottom of the page, filling in the matrix, by addressing each of the factors (e.g., "Behavior Occurred", "Behavior Did Not Occur", etc.) along the left side of the page.

### Section A: Behavior Occurred

Referring to the Functional Assessment Direct Observation Form, calculate the number of times the behavior occurred. This information can be found in the section titled "Behaviors" on the observation form. Once you have derived a number, begin to calculate how many times the behavior occurred given each of the antecedents noted on the direct observation form.

Example: Timmy threw his materials on a total of 8 occasions. On all 8 occasions, he was engaged in an In-seat activity. Additionally, on 5 occasions he was with Joan and on 3 occasions he was with Donna. Therefore, the following information would be noted in the first row, in the first column of the matrix:

8/8 *In-seat activity*

5/8 *With Joan*

3/8 *With Donna*

### Section B: Behavior did not occur

Time periods or specific activities during which the challenging behavior did not occur, should be noted in this row of the matrix.

Example: During the two days of observation, Timmy did not throw his materials during transitions, during arrival and departure activities and during freeplay and gym. The second row in the first column of the matrix should read:

- During transitions
- During arrival and departure activities
- During freeplay and gym

### **Section C: Staff Perception of the Behavior**

Once again the total number of times that the behavior occurred while the learner was being observed should be noted. Referring to the section of the Functional Assessment Direct Observation Form labeled Functions calculate the number of times in which the challenging behavior was attributed to each of the functions marked during the direct observation.

Example: On the 8 occasions that Timmy engaged in the challenging behavior of throwing materials, the observer noted that Timmy he did so in order to escape the activity. Given this information, the third row in the first column of the matrix should read:

*8/8 Escape activity*

### **Section D: Consequences**

Referring to the section of the Functional Assessment Direct Observation Form titled Actual Consequences, calculate the number of times each consequence was delivered, in response to the challenging behavior.

Example: On 7 occasions that Timmy threw his materials, he was directed to pick them up. On 1 occasion, the activity was terminated. The fourth row in the first column of the matrix should read:

*7/8 Directed to pick up materials*

*1/8 Activity terminated*

## Section E: Hypothesis

Given the information noted in the previous four sections, the individual analyzing this information, should be able to form a hypothesis regarding the circumstances under which the learner is engaging in the challenging behavior. These hypothesis can be broken down into three components, each of which is printed on the form:

### Function(s)

Note one or more potential functions of the challenging behavior (e.g., escape activity, obtain attention, etc.).

### Antecedent(s)

Note the antecedents that appear to be most predictive of the challenging behavior (e.g., task demand, transition, difficult task).

### Consequence(s)

Note the consequences that typically follow the challenging behavior (e.g., ignored, redirected, provided attention).

Example: Having engaged in material throwing 8 out of 8 times while engaged in an in-seat activity, it is hypothesized that one function of Timmy's throwing of materials is to escape the activity. Additionally, because Timmy was most often consequted with a direction to pick up the materials, the fifth row in the first column should read:

**Function(s):**      *Escape activity*

**Antecedent(s):**    *In-seat activity*

**Consequence(s):**      *Directed to pick up  
materials*

## Section F: Chains of Behaviors

After each challenging behavior listed has been carefully analyzed using each of the factors listed on the left side of the form, refer to the Functional Analysis Direct Observation Form. It is important to determine if two or more challenging behaviors have

a tendency to occur within a chain. For example, a learner may engage in yelling. After this challenging behavior has been consequted (e.g., ignored, redirected), the learner begins to hit her peers. This information can be derived by examining the numbers assigned to each occurrence of a challenging behavior. If occurrences #1, #4 and #7 are yelling and occurrences #2, #5 and #8 are hit peer, this indicates that these behaviors occurred within a chain.

Example: After throwing his materials on 3 of the eight occasions, Timmy engaged in the challenging behavior of "darting from his seat". This information would be noted in the last row of the first column within the matrix and would read:

*A chain of behavior that was prevalent was "throw material" followed by "dart from seat".*

me: Timmy

Observer: KF

**Functional Assessment Direct Observation  
Summary Form**

	Throw Materials	Dart from seat	Scream	Drop to floor
	Behavior:	Behavior:	Behavior:	Behavior:
<b>A</b>	<p>8/8 In-seat activity 5/8 With Joan 3/8 With Donna</p>	<p>13/13 In-seat activity 3/13 With Joan 10/13 With Donna</p>	<p>4/4 In seat activity 3/4 With Joan 1/4 With Donna</p>	<p>3/3 In-seat activity 2/3 With Joan 1/3 With Donna</p>
<b>B</b>	<p>-During transitions -During arrival and departure activities -During freeplay and gym</p>			
<b>C</b>	<p>8/8 Escape activity</p>	<p>13/13 Escape activity</p>	<p>4/4 Escape activity</p>	<p>3/3 Escape Activity</p>
<b>D</b>	<p>7/8 Directed to pick up materials 1/8 Activity terminated</p>	<p>1/13 Activity terminated 7/13 Directed back to seat 4/13 Blocked 1/13 Ignored</p>	<p>2/4 Ignored 2/4 Activity terminated</p>	<p>1/3 Ignored 2/3 Activity terminated</p>
<b>E</b>	<p>Function: Escape Activity Antecedent: In seat activity Consequences: Directed to pick up materials</p>	<p>Function: Escape Activity Antecedent: In seat activity Consequences: Directed back to seat/Blocked</p>	<p>Function: Escape Activity Antecedent: In seat activity Consequences: Ignored/Activity terminated</p>	<p>Function: Escape Activity Antecedent: In seat activity Consequences: Ignored/Activity terminated</p>
<b>F</b>	<p>It appears that Timmy's behaviors become more and more intensive, until the in-seat activity is terminated or until his challenging behaviors are ignored. The chains of behavior that were prevalent were throw material - dart form seat, scream - drop to floor, dart from seat - scream-drop to floor.</p>			

**Functional Assessment Direct Observation  
Summary Form**

Observer: \_\_\_\_\_

	Behavior: _____	Behavior: _____	Behavior: _____	Behavior: _____
<b>Behavior Occurred</b>				
<b>Behavior Did Not Occur</b>				
<b>Staff Perception of Function</b>				
<b>Consequences</b>				
<b>Hypothesis</b>	Function: Antecedent: Consequences:	Function: Antecedent: Consequences:	Function: Antecedent: Consequences:	Function: Antecedent: Consequences:
<b>Chains of Behaviors</b>				

Name of Person \_\_\_\_\_ Date Interview information obtained \_\_\_\_\_  
 Environmental Manipulation Form completed by \_\_\_\_\_ on \_\_\_\_\_ (date)

### Environmental Manipulation Form

**Instructions:** Please complete each question based on the information you obtained during your interview and during direct observations. It is important to remember that you will not be presenting intervention suggestions on this form. This form will prepare you to conduct an assessment to positively determine the function or functions of the challenging behavior you select for the assessment procedure.

1. List all behaviors of concern (This will help you decide which one or two you want to focus on.)
2. Indicate the one or two behaviors that you have selected for this assessment procedure. Of those listed in (#1) above, select the behavior or behaviors of greatest interest.
- 3a. If you perceive that settings events influence the challenging behavior, 1) please list hypothesized setting events 2) specify your confidence that this setting event influences the behavior 3) Provide a rationale for why you believe that this setting event influences the behavior.

Setting Events	Very Confident	Somewhat Confident	Unsure	Not at all Confident	Rationale
1) _____	1	2	3	4	_____ _____ _____
2) _____	1	2	3	4	_____ _____ _____
3) _____	1	2	3	4	_____ _____ _____
4) _____	1	2	3	4	_____ _____ _____
5) _____	1	2	3	4	_____ _____ _____

- 3b. 1) Please specify the hypothesized function for each of the behavior(s) you have selected in (#2) above (e.g., To obtain attention, to obtain tangible/object/food, to obtain assistance, to escape or avoid attention, to escape or avoid tasks, sensory feedback, etc.). 2) Specify your confidence that the hypothesized function is correct, 3) Provide a rationale for why you believe that this is the function of the behavior. Provide evidence to support the hypothesized function.

Functions	Very Confident	Somewhat Confident	Unsure	Not at all Confident	Rationale
1) _____	1	2	3	4	_____
2) _____	1	2	3	4	_____
3) _____	1	2	3	4	_____
4) _____	1	2	3	4	_____
5) _____	1	2	3	4	_____

4. Brainstorm ways of validating the setting events as variables that influence the behavior(s). List each brainstormed strategy. Make sure you have considered the setting event identified. Focus on the behavior that you selected in (#2).

- 1) \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- 2) \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- 3) \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- 4) \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- 5) \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

5. Brainstorm ways of validating the hypothesized function(s) of behavior. List each brainstormed strategy. Make sure you have considered each function identified. Focusing on the behavior that you selected in (#2).

1) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. Select one strategy from those brainstormed to seriously consider for the assessment procedure. Indicate this below (circle the number of the strategy you chose).

Setting Event: 1                      2                      3                      4                      5

Function: 1                      2                      3                      4                      5

7a. What one variable will you be manipulating? Remember all other variables must be held constant.

7b. List several key variables that you will hold constant across both or all conditions.

8. Describe your procedures for each of two conditions. The conditions are derived from the one variable you are manipulating. Remember, these procedures need to be explicit enough so that another team member could implement the procedures without further clarification.

Where will this be implemented?

Who will implement?

When will this be implemented?

For how long will this be implemented (How long is each trial or session?)

Materials needed to implement:

CONDITION A _____	CONDITION B _____
1) _____	1) _____
2) _____	2) _____
3) _____	3) _____
4) _____	4) _____
5) _____	5) _____
6) _____	6) _____

9. Is this an antecedent or consequence procedure?                      Antecedent                      Consequence
10. Describe the type of data (e.g., frequency, duration) you will be collecting and how you will accomplish this (e.g., using a stopwatch, using a lap counter, tallying instances on a data sheet).
11. Anticipate what the data should look like if the hypothesis of perceived function was correct. Explain.
12. Anticipate what the data should look like if the hypothesis of perceived function was incorrect. Explain.



events that usually occur much earlier in time than the challenging behavior. For example, if a person has not slept well the night before, she may be increasingly more irritable as the day progresses. Setting events may also include medical conditions such as constipation, occurrence of seizures, or feeling ill. There are also social setting events that may include negative interactions with others (e.g., staff denied several requests of person earlier in the morning, a peer hit the person before breakfast, the person was hurried through her morning routine in order to get to school on time) (#3a on form).

**Step 5**

Indicate how confident you are that each setting event influences the occurrence of the identified challenging behavior. This is accomplished by circling the numbers provided. 1 = Very confident, 2 = Somewhat confident, 3 = Unsure, 4 = Not at all confident. If you circle 1 = Very confident, you may decide it is not necessary to conduct an environmental manipulation to verify this event's influence on the challenging behavior (#3a on form). It is important to take into account, however, the evidence you have to support this setting event hypothesis (Continue on to Step 6).

**Step 6**

Provide the evidence that you have obtained from the interview and direct observation that supports the hypothesis that this setting event influences the challenging behavior. This information should be recorded under the heading of "Rationale" (#3a). For example, evidence may include anecdotal information from staff, a medical report from a physician, or frequency data from the direct observation (e.g, Larry's physician has indicated that some of Larry's challenging behavior is directly associated with discomfort and possible pain caused by constipation).

**Step 7**

Consider the immediate antecedents (i.e., events that occur just prior to the occurrence of the challenging behavior such as ) and consequences (both immediate and delayed which are delivered to the person following the challenging behavior) that may provoke, reinforce, or maintain the challenging behavior. You may wish to consider how the person views these antecedents and consequences. Commonly asked questions that assist in the identification of the functions of behavior are:

- 1) Is the person trying to escape or avoid nonpreferred events (e.g., tasks, activities, noise) and is occasionally successful at escaping or avoiding some events with the challenging behavior?
- 2) Is the person trying to obtain and is occasionally successful at obtaining an object, food item, beverage, or activity or change in activity with the challenging behavior?
- 3) Is the person trying to obtain attention or social contact and is occasionally successful at obtaining attention or social contact with the challenging behavior?
- 4) Is the person trying to obtain assistance or relief from

discomfort and is occasionally successful at obtaining assistance or relief from discomfort with the challenging behavior?

- 5) Is the person receiving some sensory feedback or stimulation (i.e., auditory, visual, or tactile) from the challenging behavior?

- Step 8 Indicate how confident you are that each hypothesized function influences the occurrence of the identified challenging behavior. This is accomplished by circling the numbers provided. 1 = Very confident, 2 = Somewhat confident, 3 = Unsure, 4 = Not at all confident. If you circle 1 = Very confident, you may decide it is not necessary to conduct an environmental manipulation to verify this function (#3b on form). It is important to take into account, however, the evidence you have to support this function hypothesis (Continue on to Step 9).
- Step 9 Provide the evidence that you have obtained from the interview and direct observation that supports the hypothesis that the challenging behavior serves this function for the individual. This information should be recorded under the heading of "Rationale" (#3b on form). For example, evidence may include anecdotal information from staff, a medical report from a physician, or frequency data from the direct observation (e.g., Larry screamed and bit his finger 10 times following a task demand).
- Step 10 List several ways of testing your hypotheses regarding setting events. Remember, that these are events usually occur earlier (e.g., 10 minutes to 8 hours) than the challenging behavior. For example, if it is believed that amount of sleep influences the occurrence of challenging behavior, the number of challenging behaviors that occurred when Larry slept 8 or more hours during a night could be compared with the number of challenging behaviors that occurred when Larry slept 7 or less hours of sleep. (#4 on form).
- Step 11 List several ways of testing your hypotheses regarding the function of the behavior. For example, if an attention function is hypothesized as Larry is participating in a specific activity, the amount of attention that is provided to Larry as he participates in the task can be varied. (#5 on form).
- Step 12 Circle the number that corresponds to the manipulation you have selected to further develop and conduct. You may decide to conduct a setting event manipulation or a function manipulation. (#6 on form).
- Step 13 Indicate the one variable (e.g., type of task demands, amount of attention, preference of objects, location, etc.) that you will be manipulating. (#7a on form).
- Step 14 Specify all the variables that will remain constant across your manipulated conditions. For example, if you are interested in

manipulating the amount of attention, then the tasks, people implementing the procedure, materials, and location of participation must remain the same. (#7b on form).

- Step 15** Indicate how you will vary the variable that you have selected to manipulate. For example, in one condition the implementer will deliver 100% (ongoing and available) attention to the person as he participates in a specific task. In the second condition, the implementer may deliver only occasional attention (one instance every 5 minutes) to the person as he participates in the same task. The specific way both conditions will be implemented should be indicated here on the form (#8 on form). The procedures should be specific enough that another person could immediately implement the procedures. Include in your procedures how you will verify that it was a particular condition that influenced the behavior and not some extraneous event or variable (an extraneous event or variable is one that you have not controlled by holding constant across your conditions). For example, you should include information regarding a replication of effects. (This is called an ABAB design). If you implement condition A for 3 days and then implement condition B for 3 days and find that more challenging behavior occurred during condition A, you will want to repeat the presentation of each condition to replicate these effects. Only then will you know that specific presentation of the variable in condition A was the event that produced the challenging behavior. Alternatively, Conditions A and B can be implemented concurrently within the same day but not during the same time period. (This is called an alternating condition design). It is important to vary which condition is presented first each day.
- Step 16** Indicate by circling the appropriate word whether you are conducting an antecedent or consequence manipulation. During an antecedent manipulation, you are manipulating a variable before the challenging behavior occurs. During a consequence manipulation, you are manipulating a variable after the challenging behavior has occurred. (#9 on form)
- Step 17** Indicate what type of data you will be collecting, and how you will measure it. It is helpful to develop or construct a data sheet that could be used to document the results of your manipulation. This information will then be graphed or displayed so that you can determine the influence that each of your conditions have had on the challenging behavior.
- Step 18** Indicate using fictitious data (measured in the way indicated in Step 17) how your data will look if your hypothesis of the setting event or function is correct. The display should clearly show the frequency or duration of challenging behavior when each condition was presented.
- Step 19** Indicate using fictitious data how your data will look if your hypothesis of the setting event or function is not correct. Usually incorrect hypotheses can be identified when the frequency or duration of challenging behavior 1) appears opposite to the data display constructed showing expected outcomes of a correct hypothesis or 2) the frequency

or duration of challenging behavior remains constant across both conditions.

Step 20

It is also important to have an idea of another environmental manipulation that you will conduct if you have been incorrect in your hypothesis. You may choose to select another manipulation that you have brainstormed (#'s 4 and 5 of form) or fine tune the one you have just implemented to more carefully break down the variable.

# Schedule

## What is a schedule?

A schedule is a group of symbols (e.g., objects, pictures, written words) that inform a child of the activities that will occur during a designated period of time. For example, Figure 1 illustrates a pictorial display of a ball, a crayon, a book, and a glass of milk that could be used to indicate that the child will first participate in free play (ball), then an art activity (crayon), then story time (book) and then snack time (glass of milk).

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Insert Figure 1 about here

## What is the purpose of a schedule?

The purpose of a schedule is:

1. To provide the child with information about the day, allowing him/her to anticipate the next activity (i.e., the order of two or more planned activities).
2. To teach the child to use a reminder list to carry out daily activities without teacher delivered prompts.
3. To facilitate interactions with peers, teachers, and family members about what the child has been doing, or is going to do.

## For whom is a schedule useful?

A schedule is particularly useful for children who emit challenging behaviors during times of transition. Transitions are those times during the day when the child is moving from one location to another or is moving from one activity to another. During transitions the child is responding to the change or transition between locations and activities, not the differences in activities. Examples of transition times include: waiting for the bus to go to school, walking from the classroom to the library, waiting in line to get into the lunchroom, changing from math to reading activities, leaving to visit a noncustodial parent or return to the custodial parent, getting ready for bed, finishing dinner and getting ready to do homework.

A schedule program can be implemented during all or part of a child's day. For example, if a learner has difficulty transitioning throughout his day, then it will be beneficial to implement the schedule program across his entire daily routine.

However, if a learner only has difficulty with transitions when it is time to go to music, then it may only be important to implement the schedule program prior to music time.

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A schedule can be used to inform a learner of changes in his/her daily routine. For example, consider Jesse, a learner whose schedule typically progresses in the following manner: a) take off coat and hang it up, b) engage in free play, and c) participate in a group circle activity. However, on occasion, Jesse's class goes to the gym for an assembly instead of participating in a group activity. In these situations, the interventionist could insert a symbol representing the gymnasium in place of the symbol that represents the group activity.

A schedule is also useful for children who would benefit from a visual reminder that informs them when reinforcers will be provided or when preferred activities will occur. These children may engage in an unpreferred task as long as they know a reinforcer or preferred activity is coming up soon. The schedule or visual reminder encourages the child to continue working until the reinforcer is provided.

### **How do I implement a schedule program?**

#### **Step 1: Select the activities/events that will be a part of the schedule**

Select a sequence of events or activities that the child will engage in during the day. It is possible that only a portion of the day (i.e., morning activities) might be selected for the schedule rather than the activities engaged in during the entire day. Interviewing staff and observing the child in the context of his/her daily routine are good strategies to use in choosing activities and events for the schedule. Initially, it is important to select activities that the child can engage in fairly independently upon arrival at the new location or activity. This will increase the probability that the child does not become frustrated by learning a new or difficult task while learning to use the schedule.

#### **Step 2: Create materials**

The materials that will be used in the implementation of the schedule program consist of: (a) the symbols, (b) the display board, and (c) the carrying case or wallet used to transport the symbol from the display board to the activity that it represents.

**Symbols.** The symbols that are chosen should serve as a reminder of the activities that the child is expected to engage in during the course of the day. Care should be taken to ensure that the symbols selected have the appropriate meaning for the child (e.g., that the child identifies a picture of a glass with snack time). Following is a brief description of various symbols. The "Match-to-Sample" section of the Augmentative and Alternative Communications Module gives in-depth information regarding how to select symbols for the child.

1. Three dimensional objects: Three dimensional objects are real objects the child encounters in the environment, they have height, width and depth. They are the actual object used in the activity (e.g., a Cheer laundry detergent bottle with detergent in it).
2. Three dimensional tangible symbols: Three dimensional tangible symbols can also be used in schedule programs. Like three dimensional objects, the symbols have height, width and depth, but their relationship to the task is more abstract. They may be portions of the object used in the task (e.g., the front half of the laundry bottle), a miniature version of the object used (e.g., a small ball to represent gym time), or a textured symbol (e.g., a piece of velvet for "happy" or a piece of sandpaper for "angry"). The advantage of using three dimensional objects or symbols is that they are easy for the child to recognize and identify, and they can be identified by touch as well as sight. The disadvantage of three dimensional objects and symbols is that they are bulky and difficult to transport.
3. Two dimensional symbols: Two dimensional symbols are depictions of the real objects or events the child encounters in the environment. They have height and width but are flat (e.g., product logos, photographs, line drawings, printed words). The advantage of two dimensional symbols is that they are small and can be displayed on a board that will fit on a wheel chair. Their size also allows them to be transported easily to different settings. The disadvantage of using two dimensional symbols is that they are an abstract representation of the item or event and require the child to recognize and associate the symbol to the item or event in the environment.

Display. Once the symbols have been selected a method to display them is designed. The type of symbol used is considered when choosing a display. For example, a display board for two inch by two inch pictures of drink items (e.g., pictures of a Coke, milk and juice) would be different from a display board for three dimensional symbols of drink items (e.g., a can of Coke, a carton of milk and a bottle of juice).

1. Three dimensional objects: Three dimensional objects can be stored in boxes (children's shoe boxes work well). One shoe box is needed for each object. Staple the long sides of the shoe boxes together. A cover

for the object box can be made by: (a) cutting off the flaps on the long sides of each cover, and (b) stapling the short flap from one cover to one box. Continue until all the covers are stapled to a box on just one side (see Figure 2).

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Insert Figure 2 about here

2. Three dimensional tangible symbols: Three dimensional symbols can be displayed in shoe boxes as described above. Another display option is the use of velcro boards. A velcro covered board is attached to a wall and velcro strips are attached to the individual symbols. The symbols can be removed and replaced to the board as needed.
3. Two dimensional symbols: Two dimensional symbols (e.g., product logos, photographs, line drawings, printed words) may be: (a) attached to a board on the wall by affixing velcro to the symbols (See Figure 3),

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Insert Figure 3 about here

- (b) stored in a wallet that contains a long fold-out section typically used for photographs or credit cards (See Figure 4). This type of display is particularly useful for learners who would benefit from a portable system that can be carried with them throughout the day.

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Insert Figure 4 about here

- (c) displayed in a notebook or folder (See Figure 5).

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Insert Figure 5 about here

### Step 3: Select the location for the display

The display should be placed in a location that is easily accessible to the child. For example, if the child is in a wheelchair it will be important to place the board in a location where the child will be able to see and access the symbols such as at a visible angle on the chair tray. Similarly, if a child is ambulatory, the schedule should be placed on a wall at an appropriate height for him/her to access the symbols.

#### Step 4: Implement the Schedule Program

Initially, the schedule program will be implemented with only one symbol on the board at any given time. As the learner becomes proficient with the use of one symbol, more symbols may be added to represent the chronology of his/her daily routine. The implementation of the schedule program is as follows:

1. Arrange the Symbol(s). Before the child approaches the schedule display, the interventionist should place the symbol(s) representing the activity on the display.
2. Approach the Display. When it is time for the child to perform the activity, the child is prompted to approach the schedule display. A prompt is a reminder or cue that it is time to engage in a certain activity (e.g., checking the schedule display). Natural cues occur spontaneously in the child's environment (e.g., finishing a snack, other students packing up their papers, or the alarm of a digital watch set for the time at which the child should check the board). Ultimately, it is desirable for the child to respond to natural cues to check the display for the next activity. However, for some children, a natural cue may initially be too subtle and it will not prompt their response. In these cases it is necessary to introduce a controlling prompt. A controlling prompt is a more obvious reminder or cue delivered by the interventionist. Some examples of controlling prompts include: (a) a physical cue (e.g., leading the child to the display), (b) a verbal cue (e.g., "time to check your board"). As mentioned before, ultimately it is desirable for the child to respond to natural cues. Once the child is checking the display in response to controlling prompts it is time to fade these prompts (i.e., gradually omit them) and transfer the control to natural cues in the child's environment. The Prompting Module describes the process of selecting and fading controlling prompts.
3. Locate the Symbol. Once the child is at the schedule display, s/he is prompted by the interventionist to locate the symbol. For example, the interventionist may physically guide the child's hand to the symbol representing the next activity, or the interventionist may provide a verbal cue (e.g., "it's time for gym, show me the "ball)").
4. Act on the Symbol. After the child locates the appropriate symbol, s/he will be instructed to:

- (a) point to the symbol representing the activity which is to be performed and then go to the area where it is to take place, or
  - (b) take the symbol off of the display and place it in a designated area (e.g., the symbol may be placed in an envelope, or given to a staff person), or
  - (c) remove the symbol from the display and take it to the area where the activity takes place (e.g., place the symbol in a communication wallet and then move to the appropriate area, or the laundry bottle is removed from the box and carried to the washing machine).
5. Begin the Activity. When the child arrives at the area where the activity will be performed, s/he engages in the activity identified in the schedule. If the symbol has been brought along to the activity the child may first give the symbol to a staff person or place the symbol in a designated area (e.g., the child can place the symbol that s/he is holding next to or on top of an identical symbol that is located in the activity area). If the symbol is the actual object that is needed to complete the activity, the child may proceed to use the object appropriately.
6. Return to Schedule Display. Upon completion of the activity, the child is prompted to return to the schedule display. If the child has taken the symbol with him/her to the location of the activity, s/he may do one of the following to signify completion of the task:
- (a) place the symbol in another section of the display (e.g., in a pocket labelled "finished"),
  - (b) place the symbol in a separate storage area (e.g., an envelope or container),
  - (c) hand the symbol to a staff person to indicate completion, (d) turn the symbol face down in its original location,
  - (e) cover the symbol with a symbol that represents "finished" (e.g., a red X).
7. Adding More Symbols to the Display. As the child becomes proficient with the use of one symbol, additional symbols representing other activities should be added to the schedule display. It is important to ensure that the additional symbols will not confuse the child, and that the child is able to discriminate among the symbols on his/her display. That

is, we must ensure that the child can attach the appropriate meaning to each symbol, seek out the symbol that conveys the message he/she wants to communicate, and ignore all other symbols on the display regardless of their location in relation to the desired symbol. The procedure involves systematically adding increasingly complex symbols to the display.

First, a blank symbol card is introduced to the display. The positions of the blank symbol and the established symbol are randomly altered on the display over time. The goal of this step is to get the child to seek out the symbol he/she wants to communicate about and to ignore distracters such as shifting position of the symbol and the introduction of the blank card.

Next, the blank card is built on to resemble the established symbol. For example, if the established symbol is a line drawing of a bed representing "It's time to make your bed," a line drawing would be introduced onto the blank card (e.g., a line drawing of a duck). There are two important considerations to this step. First, the new symbol is to be a distracter, that is its purpose is to teach the child to ignore its presence and continue to choose the symbol that represents what he/she wants to communicate about. Therefore, the distracter symbol should be one that will not be used in the near future as a communication symbol (e.g., the child will most likely not need the symbol "duck" in the near future). Second, the distracter is introduced slowly. In the case of the line drawing of a duck, the whole drawing may take five separate sessions to appear (e.g., the feet, the belly, the back, the head, the beak).

When the child is able to continue to choose the established symbol in the presence of a distracter, a new communication symbol may be added to the display. Now that the child can discriminate among two symbols on the display and choose the symbol representing his communicative intent, a new symbol conveying a different communicative intent may be added to the display. For example the child mentioned above has a drawing of a bed representing "It's time to make your bed" on his display. His parents have decided that the next message should be "It's time to

brush your teeth." The procedures have been followed identifying that a line drawing of a toothbrush conveys this message to the child. The second symbol is introduced to the display in the same manner as the first symbol. An additional consideration is the initial need to vary the position of the two symbols. This procedure is necessary to ensure the child is seeking out the desired symbol and not simply accessing the first symbol he/she sees.

Additional symbols are added to the display in the same manner described above. The symbol choice is dependent upon the communicative needs of the child.

When the child returns to the display s/he will not only return the symbol representing the activity that was just completed (see Step 4, number. 6), but also engage in Step 4, Numbers 3 through 6, for the symbol that represents the next activity.

#### **Additional considerations:**

To encourage the child to independently check the schedule, it may be beneficial to occasionally have a symbol that represents a preferred item on the display (e.g., 25% of the time that the child checks the schedule he/she will find a symbol representing free access to a preferred item). A preferred item is something the child enjoys (e.g., access to a video show, a snack, access to a toy, time to talk with an adult). When the child finds the symbol representing the preferred item, the child can directly exchange it for the item. Getting the preferred item "for free" without having to engage in work prior to access will encourage the child to check the schedule just in case that item is present.

An effort should be made to help the child avoid error responses. If the child begins to make an incorrect response (e.g., reaching for the wrong symbol), the interventionist can interrupt the incorrect response and prompt the correct response (e.g., guide the child's hand to the correct symbol, or deliver a verbal prompt such as "remember, this is gym time, show me the ball for gym"). All prompts other than the natural cues (i.e., the controlling prompts discussed above) need to be faded over time as the ultimate goal is for the child to correctly use the schedule independently.

When a schedule is used as a visual reminder of reinforcement or preferred activities to come it is important the child is always provided with the reinforcer

promised in the schedule once the activity is completed. Failure to provide a promised reinforcer may cause the child to decide that the schedule is not a true depiction of his/her daily routine and that he/she will not be given the desirable items or events promised. This will invalidate the schedule program.

A schedule can be modified to meet a variety of needs. For example it can be used in the following ways:

Message Board. A message board is a limited application of a schedule program. A message board provides the child with a reminder of specific tasks that may not be part of his/her regular daily routine. For example, a message board could contain a symbol that represents "clean up". This symbol could be used (following the same procedures as delineated for the schedule program) to notify the learner when it was necessary to engage in that activity.

### **How do I keep track of the child's progress?**

In order to keep track of the child's progress, it will be necessary to monitor his/her performance during each component of the schedule program. For example, let us consider Ken. Ken is a preschool child who has recently started a schedule program. During this program, an object symbol representing one of three activities (circle, snack, outdoors) is placed on the schedule display. Prompting to ensure Ken's correct response is used as needed. Ken's program consists of the following components:

1. approach the schedule display,
2. remove three dimensional object symbol from the object box display,
3. travel to the area where the activity will take place,
4. place symbol in designated location,
5. perform the activity,
6. return to the schedule display,
7. return object symbol to original position and close lid.

In order to keep track of Ken's progress, his interventionist has developed a progress sheet (See Figure 6). As you can see, this progress sheet lists each segment of Ken's schedule program. For each of these segments, the interventionist; a) circles the level of prompt that was needed for Ken to complete that component, and b) indicates whether or not challenging behavior occurred during that component. It is evident from Ken's data sheet that he independently engages in most of the components of the program. However, there are still some components of the program

for which Ken requires some prompting (e.g. approaching the display, returning to the display).

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Insert Figure 6 about here

### **How do I know if the program is working?**

To determine if the program is working, it will be necessary to examine the child's progress over a period of time. This will be accomplished using the information obtained from the child's progress sheet. Figure 7 incorporates the information from Ken's progress sheet to determine if the program is working.

Figure 7 illustrates that Ken is progressing nicely during each of the components of the schedule program with the exception of; a) approaching the display, and b) returning to the display. If Ken continues to have difficulty with these two components, then it may be necessary to make some modifications to the existing program. For information on making these modifications please refer to the following section on how to troubleshoot problems that might arise.

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Insert Figure 7 about here

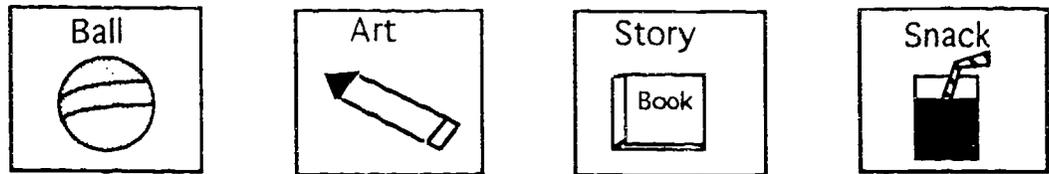
### **How do I troubleshoot problems that might arise?**

In the event that the schedule program does not appear to be progressing smoothly, it will be important to accurately identify which portions of the program are not successful. To do this, it is necessary to examine the child's progress sheet and look for the components of the program with which the child is having difficulty. After these component(s) have been identified, it will be possible to modify the program to better meet the child's needs. Figure 8 shows potential troubleshoots for each portion of the schedule program.

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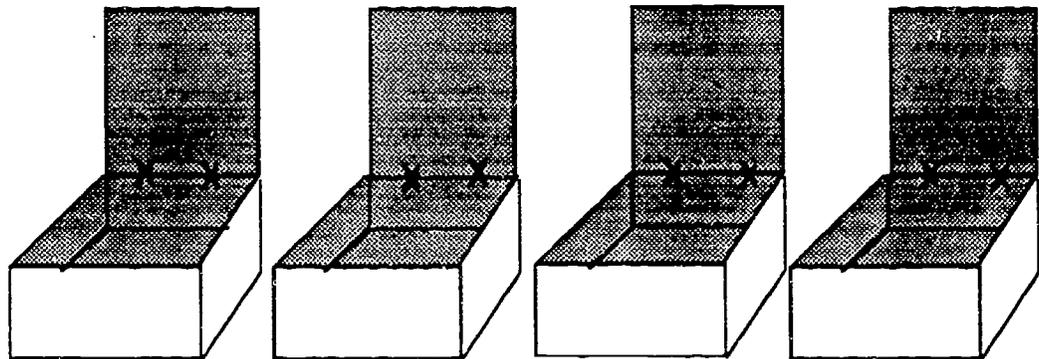
Insert Table 1 about here

Figure 1



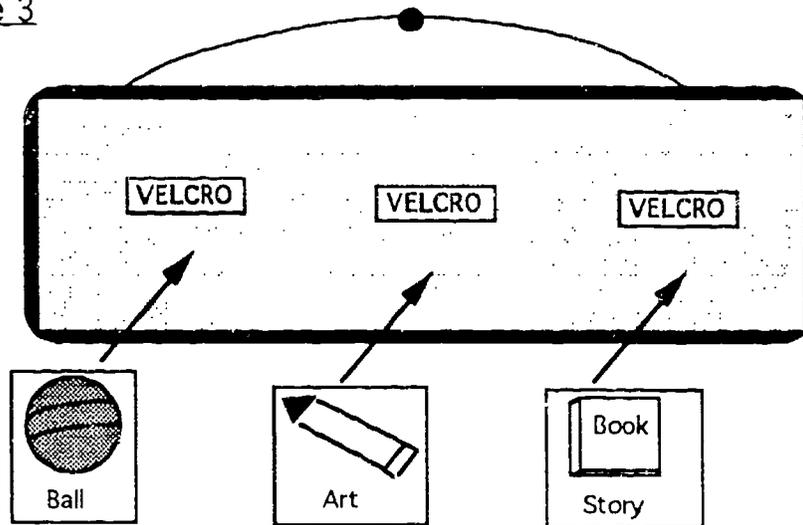
Symbols Representing Activities

Figure 2



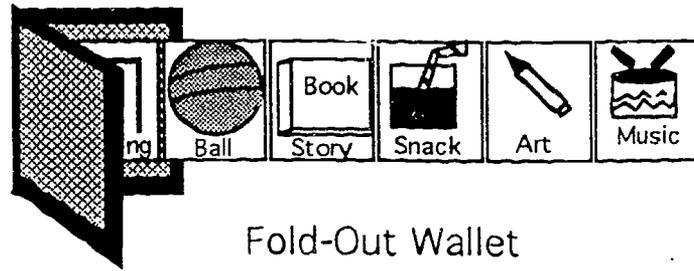
Three Dimensional Symbol Display

Figure 3



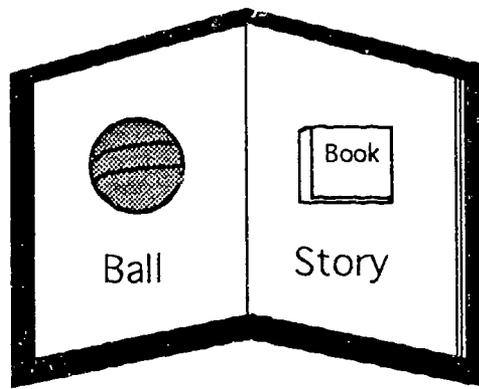
Wall Board with Velcro

Figure 4



Fold-Out Wallet

Figure 5



Notebook / Folder Display

Figure 6

**Schedule Board Progress Sheet**

Student Name: \_\_\_\_\_  
 Circle the Type of Prompt Used:  
 Physical Gestural Verbal None  
 Data Collector: \_\_\_\_\_

Directions: For each component of the schedule board routine;  
 (a) circle the level of prompt needed, and  
 (b) place and "X" in the appropriate box if  
 challenging behavior occurred during that  
 component

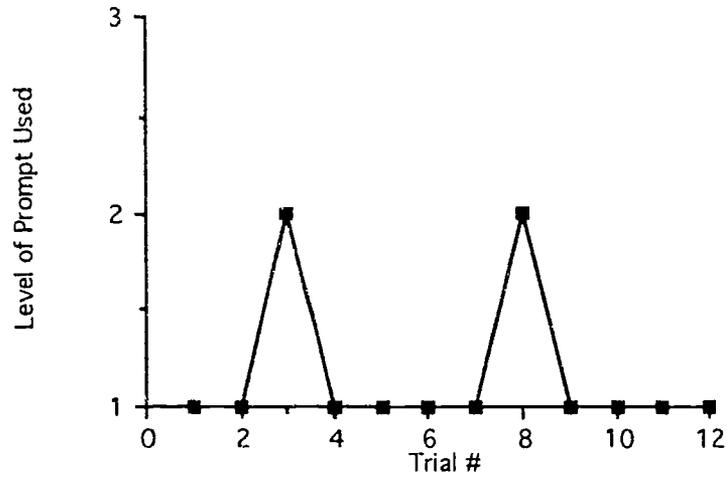
Key: f=full prompt p=partial prompt n=no prompt

Date/ Activity	Component of Schedule Program	Level of Prompt Needed	Chall. Behvr ("X")	Date/ Activity	Component of Schedule Program	Level of Prompt Needed	Chall. Behvr ("X")
	Approach Display Remove Symbol Object Travel to Area Place Symbol in Designated Area Perform Activity Return to Display Return Symbol to Display	f p n f p n	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		Approach Display Remove Symbol Object Travel to Area Place Symbol in Designated Area Perform Activity Return to Display Return Symbol to Display	f p n f p n	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	Approach Display Remove Symbol Object Travel to Area Place Symbol in Designated Area Perform Activity Return to Display Return Symbol to Display	f p n f p n	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		Approach Display Remove Symbol Object Travel to Area Place Symbol in Designated Area Perform Activity Return to Display Return Symbol to Display	f p n f p n	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	Approach Display Remove Symbol Object Travel to Area Place Symbol in Designated Area Perform Activity Return to Display Return Symbol to Display	f p n f p n	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		Approach Display Remove Symbol Object Travel to Area Place Symbol in Designated Area Perform Activity Return to Display Return Symbol to Display	f p n f p n	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	Approach Display Remove Symbol Object Travel to Area Place Symbol in Designated Area Perform Activity Return to Display Return Symbol to Display	f p n f p n	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		Approach Display Remove Symbol Object Travel to Area Place Symbol in Designated Area Perform Activity Return to Display Return Symbol to Display	f p n f p n	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	Approach Display Remove Symbol Object Travel to Area Place Symbol in Designated Area Perform Activity Return to Display Return Symbol to Display	f p n f p n	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		Approach Display Remove Symbol Object Travel to Area Place Symbol in Designated Area Perform Activity Return to Display Return Symbol to Display	f p n f p n	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

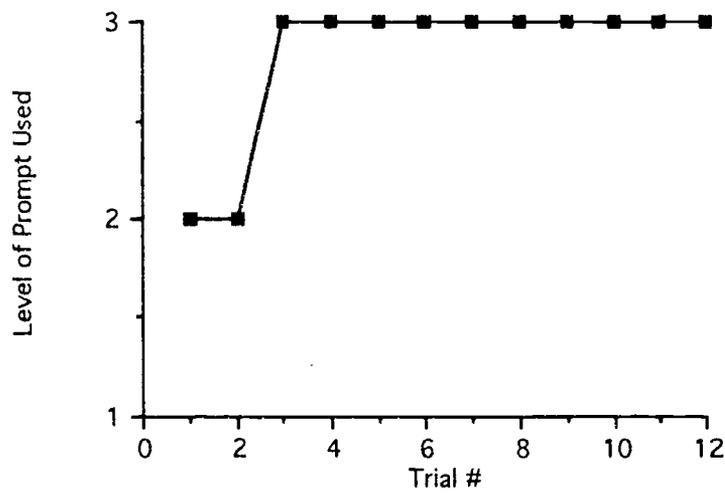
This work was supported in part by Grant No. H024P10017. Developing and Evaluating a Model of Inservice and Technical Assistance to Prevent Challenging Behavior in Preschoolers.

Figure 7 graphs 1 - 7

### 1) Approach Display

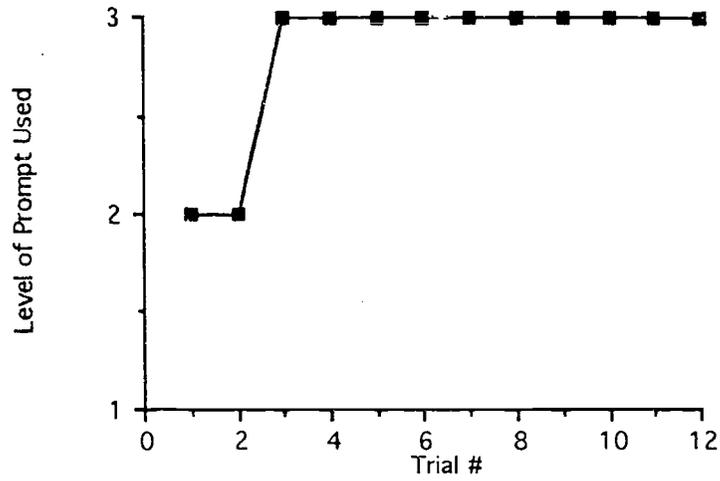


### 2) Remove Symbol

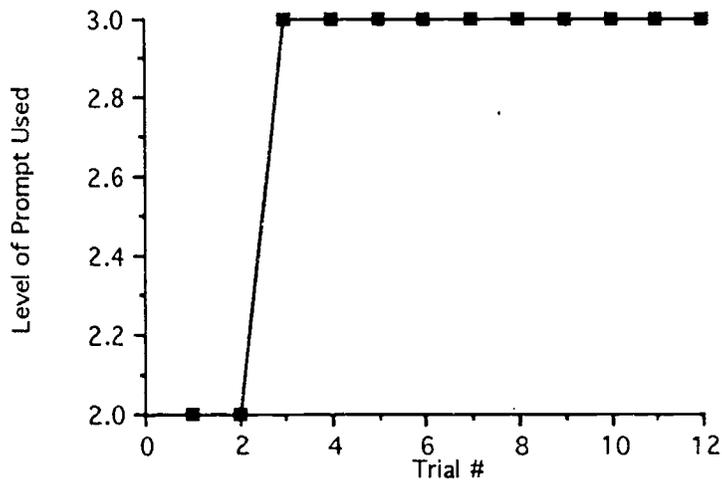


This work was supported in part by Grant No. H024P10017, Developing and Evaluating a Model of Inservice and Technical Assistance to Prevent Challenging Behavior in Freshchoolers.

### 3) Travel to Area

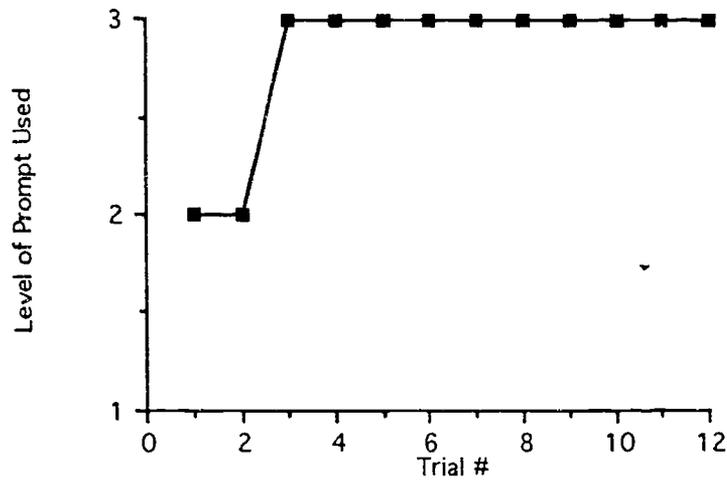


### 4) Place Symbol in Designated Area

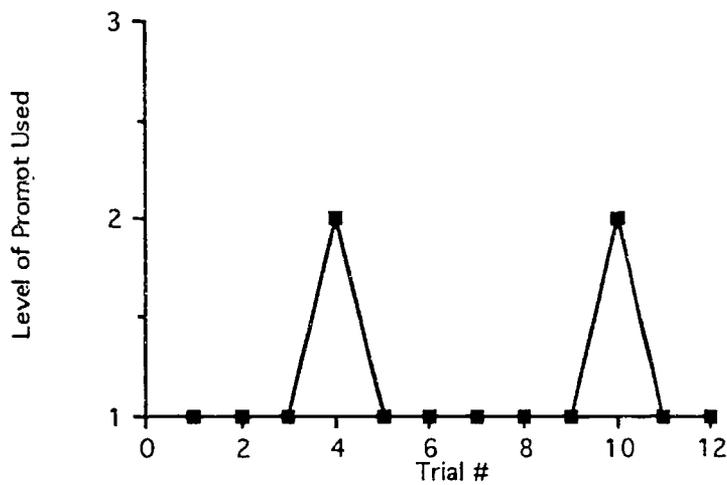


This work was supported in part by Grant No. H024P10017, Developing and Evaluating a Model of Inservice and Technical Assistance to Prevent Challenging Behavior in Preschoolers.

### 5) Perform Activity

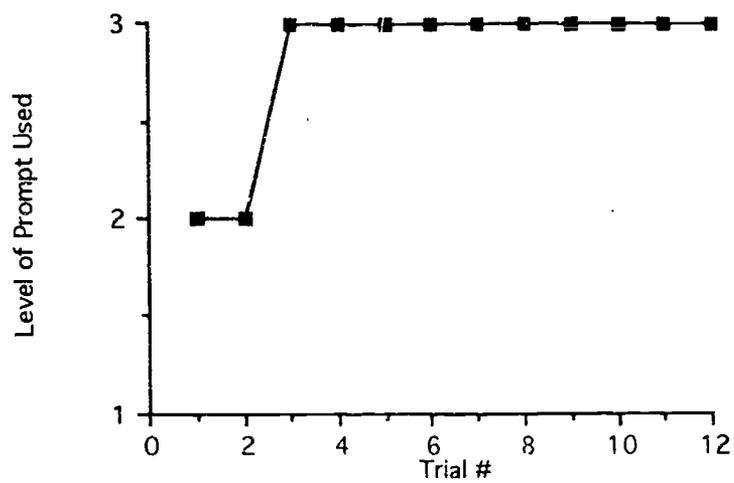


### 6) Return to Display



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### 7) Return Symbol to Display



This work was supported in part by Grant No. H024P10917. Developing and Evaluating a Model of Inservice and Technical Assistance to Prevent Challenging Behavior in Preschoolers.

Table 1

Component of Program Where Difficulty Occurs	Potential Troubleshoots
Approaching the Display	<ul style="list-style-type: none"> <li>- provide the learner with a more salient cue to indicate that it is time to check the schedule (e.g. a bell instead of a gestural prompt)</li> <li>-allow the learner to access a reinforcer when s/he approaches the display (e.g. a sticker is waiting for the learner at the display)</li> </ul>
Locating and Acting On the Symbol	<ul style="list-style-type: none"> <li>- ensure that the symbols that are being used are the appropriate size for the learner (see _____ on assessing a learner's visual capabilities)</li> <li>-ensure that the symbols that are being used are the appropriate representational level for the learner (see _____ on identifying an appropriate symbol system for a learner)</li> <li>-provide a reinforcer when the learner correctly locates and acts on the symbol (e.g. a favorite stamp on a peice of paper)</li> <li>-provide the learner with a more salient cue for where the activity is located (e.g. a gestural prompt instead of a verbal one)</li> </ul>
Beginning the Activity	<ul style="list-style-type: none"> <li>-provide a reinforcer when the learner begins the activity (e.g. attention from the teacher)</li> <li>-provide a more salient prompt for what activity the learner should engage in (e.g. have some children already engaged in the activity)</li> </ul>
Returning to Schedule Display	<ul style="list-style-type: none"> <li>- provide the learner with a more salient cue to indicate that it is time to return to the schedule (e.g. a bell instead of a gestural prompt)</li> <li>-allow the learner to access a reinforcer when s/he returns to the display (e.g. a sticker is waiting for the learner at the display)</li> </ul>

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or duration of challenging behavior remains constant across both conditions.

Step 20

It is also important to have an idea of another environmental manipulation that you will conduct if you have been incorrect in your hypothesis. You may choose to select another manipulation that you have brainstormed (#'s 4 and 5 of form) or fine tune the one you have just implemented to more carefully break down the variable.

## C. Graphic Mode

### What is graphic mode communication?

Graphic mode communication involves the use of two-dimensional or three-dimensional symbols to represent objects and concepts. A symbol, is something that stands for or is representational of its corresponding referent (Yoder & Vanderheiden, 1986). For example, a photograph of an ice-cream cone, can be used as a symbol for the actual cone. The symbols used in a graphic mode communication system can be categorized as **representational** (e.g., colored photographs, black and white photographs, line drawings, or traditional orthography) or **tangible** (e. g., real or miniature objects).

In graphic mode communication, the means in which the learner chooses a desired symbol is known as a selection technique. The term **selection technique** refers to the way the individual selects or identifies symbols (Beukelman & Mirenda, 1992). For persons using graphic symbols, there are two types of selection techniques; direct selection and scanning. When accessing symbols through **direct selection**, the learner selects a desired symbol by directly pointing to the symbol with a body part or adaptation. **Adaptations** are pieces of equipment used by the learner in order to assist in the selection of the symbols. For example, a hand held stick or a light beam may be used by the learner in order to make a desired selection. The graphic mode user may also select a symbol by means of scanning. Through **scanning** another person or an electronic cursor menus choices and the learner signals when the desired symbol is chosen.

### For whom is a graphic mode communication system appropriate?

A variety of learners may benefit from a graphic mode communication system. Learners who have severe physical disabilities may not be able to communicate through the verbal or gestural mode. Therefore, a graphic communication system (i.e., a communication board or book) may be their primary means of communicating. Learners who use the verbal and/or gestural mode may also benefit from some applications that include graphic mode communication. Some

individuals may not be able to produce certain signs or words. Therefore they could use the graphic mode to express particular vocabulary. For example, a learner who uses sign may have problems forming the sign for "I would like a break" and may point to a graphic symbol in order to make this request. In some instances there may not be a sign that is explicit enough to represent a learner's request. For example, a learner who only likes Oreo™ cookies might have a difficult time expressing this request in sign. Use of a graphic symbol of the Oreo™ cookie (i.e., photo or product logo) would help to avoid such problems. Other learners may have family members and friends who understand their verbalizations or signs, but they are not very intelligible to others in the community. Such learners may benefit from a graphic system (e.g., book or wallet) when communicating with other people in their environment (e.g., a new friend or a store clerk).

### **What types of symbols are used in graphic communication systems?**

Symbols used in graphic communication systems take a variety of forms and may be categorized as:

#### 1) Two-Dimensional Symbols

Two dimensional representations can be used in order to symbolize referents in a learner's environment. For example, a photograph is a three dimensional symbol and can be used by a learner to request its corresponding referent (e.g., a can of pop). Two dimensional symbols are discriminated on the basis of visual properties (i.e., color, shape). The following are examples of **two-dimensional** symbols.

**Product Logos:** Learners may easily recognize the logos of familiar activities or products, for example a favorite restaurant or a preferred breakfast cereal. These logos may be reproduced in color, reduced or enlarged, and used as a symbol on the learner's graphic communication system.

**Photographs:** Photographs of actual objects or individuals engaged in an activity, may be used on graphic communication systems. Both color and black and white photos may be used.

**Line Drawings:** Line drawings usually consist of black lines on a white background or white lines on a black background. The drawings may be detailed sketches of objects, or may consist of a rough outline. There are a number of commercially available line drawn symbols (Figure \_\_\_\_). The line drawing is often paired with its corresponding printed word, placed above or below the drawing.

**Traditional Orthography:** Letters, words or phrases, are appropriate when both the user and their partners are able to read. Such a system may consist of commonly used printed words, or letters of the alphabet that the learner can use to create unique messages.

2) Three-Dimensional Symbols

Three dimensional representations, are graphic symbols that have depth or thickness, in addition to height and width. Three dimensional symbols may be discriminated based on visual properties and/or tangible properties. For example, a learner may choose among a selection of fruits by visually examining them and then making a selection, or s/he may manipulate each fruit and then make a choice. The following are examples of **three-dimensional** symbols.

**Real Objects** Objects may be used to represent specific items or activities. They may be very similar or identical to the referent, or they may be actually be associated with the referent itself.

Similar Objects: Real objects that are similar to the actual referent may be used as graphic symbols. For example, a learner while in the classroom may present her teacher with a ball similar to ones that are used during gym class, in order to symbolize the desire to go to the gym.

**Identical Objects:** Real objects that are identical to the actual referent may also be used as graphic symbols. For example, learner may be presented with an empty container of milk and one of juice. Upon making a choice, the learner would be given a full container of the corresponding item. In this example, the empty juice and milk containers are identical to their referents (with the exception of lacking in the actual beverage).

**Actual Objects:** Objects that are actually associated with the referent itself may be used as a graphic symbol. For example, a cassette tape may be used to symbolize music time, and when selected by the learner it is actually inserted in the tape player to be listened to by the learner. Similarly, a cafeteria tray may be used to symbolize lunch time. A learner may draw attention to a cafeteria tray, in order to indicate that s/he is ready for lunch.

**Miniature Objects** Real objects can sometimes become burdensome to transport, therefore miniature items may be appropriate for some learners. For example, a small bar of soap may be used to symbolize self care activities, or a small toy computer may be used to represent a computer lesson.

**Parts of Objects** Parts of objects may be used to represent items or activities. Examples include, the flip top of a pop can or the arm of a toy record player.

**Textured Symbols** Textures may be used to symbolize objects or activities. The texture may be closely associated with the referent, for example a piece of terry cloth could be used to symbolize bath time or an arbitrary texture may be chosen. For example velvet may be used as a symbol for home.

**Miniature/Parts of Objects:** Miniature objects or parts of the object can be used to represent the actual object or activity. For example, a single serving size cereal box can be used to represent a particular

brand of cereal. The top of the box could also be removed and placed on the learner's communication board.

### **Are there differences in the guessability of graphic symbols?**

It is important to note that there are differences in the guessability of graphic symbols. The guessability of a given symbol or set of symbols is referred to as **iconicity**. Symbols may be viewed along a continuum, with highly guessable symbols (**transparent** symbols) at one end and those whose meanings are not highly guessable (**opaque** symbols) at the other. Symbols whose meanings are not immediately guessable, but are apparent when additional information is provided (**translucent** symbols) are considered to be at the middle of this continuum. Generally, more iconic symbols may be easier to learn and more easily generalized to other situations, in addition, these skills tend to be maintained over time.

### **What are the advantages and disadvantages of graphic mode communication systems?**

#### **Advantages:**

1. Readily Identifiable Many graphic symbols are readily identifiable to learners and their communication partners. For example, many people upon viewing a photograph of a building with a yellow bus parked outside, would easily guess that it represented a school. In addition many line drawings look very much like the objects they represent.
2. Adaptable for Learners who are Visually Impaired Graphic symbols can easily be coded with textures to compensate for a learner's visual problems. For example, a symbol with a very small piece of sandpaper on one corner might be used to help the learner with a severe vision impairment differentiate between it and a symbol with a similar appearance.
3. Representative of Explicit Vocabulary Graphic symbols can easily be used to represent explicit vocabulary. For example, in the gestural mode, it would be

unlikely that persons in the community would be able to interpret the series of signs representing "small Diet Coke™". However, a photograph of a small cup labeled Diet Coke™ is a clear representation of the learner's request.

4. Constant Display Graphic systems provide the learner with a constant display of symbols, where as learners who use the gestural mode, must be able to recall and produce each sign from memory. The symbols in a graphic system may be color coded, arranged by semantic category or by the environments in which they are used. These techniques may aid the learner in locating a symbol within his/her display (i.e., a particular page of a communication book or a section of a communication board).

5. Easily Incorporated into an Electronic Communication System Graphic symbols can easily be incorporated into a variety of electronic communication systems. Placing the symbols on the **overlays** (INSERT DEFINITION OF OVERLAYS) of the devices allows the learner to gain access to a variety of features unique to electronic aids:

- scanning techniques
- voice output
- environmental controls
- alternate access (e.g., computers)
- dynamic displays
- various activation strategies (e.g., timed, release and filtered)

6. Can represent multiple message components with a single response By selecting only one symbol, the learner may communicate a message consisting of multiple components. For example, by selecting a line drawing of a playground, the learner may be able to communicate the message "I want to go to the playground, now!"

### **Disadvantages:**

1. Portability. When communicating through the graphic mode a learner must have their communication system with them (i.e., book, wallet, electronic communication device). Sometimes transporting these systems can become very

cumbersome. Consider a learner whose many symbols are displayed in a large three-ring binder. If the learner has other things to carry (i.e., lunch, other books, etc.) transporting the communication book might be a problem. Other learner's may experience problems due to the weight of their communication device.

2. Speed. Graphic mode communication tends to occur at a slower rate than other modes. The process of locating a page in a communication book, and then selecting a symbol may be very time consuming. Even communication wallets may become problematic. Due to their small size they may easily be misplaced. Selecting symbols by means of a scanning technique is also quite time consuming. It is generally considered an even slower process than direct select.

### **Considerations to keep in mind when developing symbol displays**

How the symbols will be displayed is a very important consideration in the development of a graphic communication system. Three factors to keep in mind are:

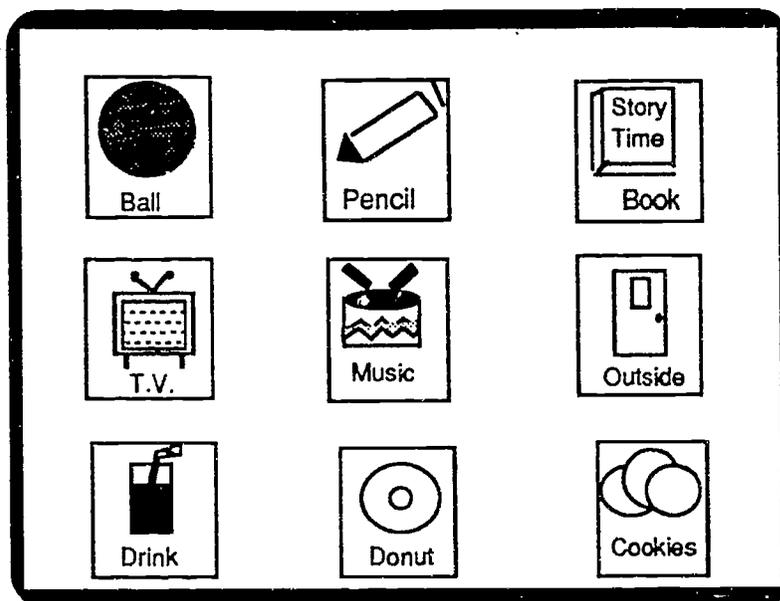
- 1) Accessibility: how accessible are the symbols to the learner?
- 2) Durability: how durable are the materials that are used in making the communication display?
- 3) Portability: how easy is it to transport the communication display from place to place?
- 4) User Friendliness: are the people with whom the learner is communicating, able to identify the symbols?

### **What are methods for displaying graphic symbols?**

Communication board - A communication board is often used to display two-dimensional symbols. The symbols may be permanently attached to the board (glued or covered with clear contact) or affixed with Velcro. Additionally, a variety of **overlays** can be used with one single communication board in order to

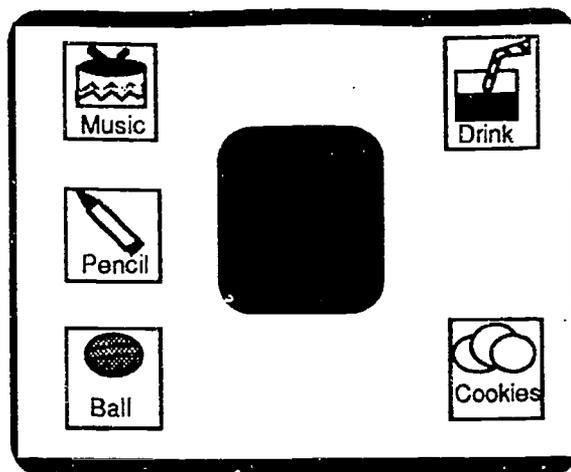
display a variety of symbols at varying times of the day (or during a variety of activities). Typically, overlays consist of symbols attached to a piece of paper which is then laminated or protected by flexible plastic.

The learner's communicative needs and physical abilities should be used to determine the size of the board. For example, a learner who uses a wheel chair to ambulate but has no fine motor or visual impairments might use a communication board that is 2' X 2' containing a matrix of 1" X 1" graphic symbols.



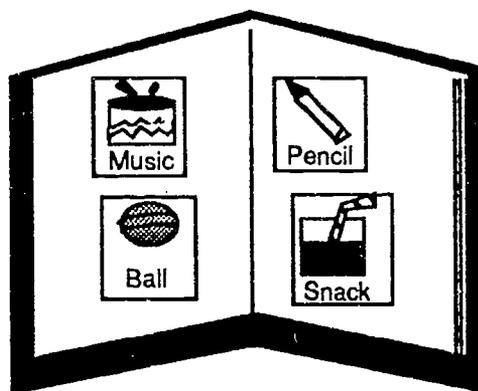
**Communication Board**

Some communication boards are constructed of clear Plexiglas. This type of board is primarily used with learners who use "eye gaze" to select a symbol (See eye gaze in the following section). When the board is placed between the learner and his listener, the learner looks at an item long enough for the listener to identify the direction of the gaze and confirm the selected item (Beukelman & Mirenda, 1992). A board constructed of clear Plexiglas, allows the listener to more easily discern the symbols that the learner is selecting.



EYE GAZE COMMUNICATION BOARD

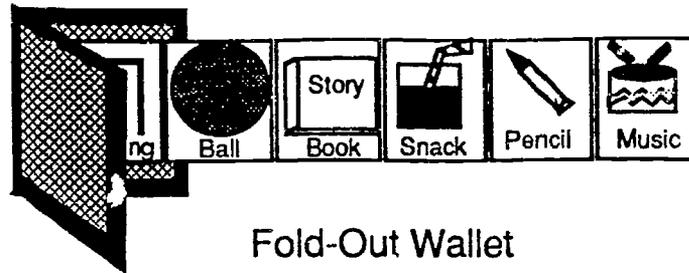
Communication book - Graphic symbols may be stored in photo albums or in three-ring binders. The two-dimensional symbols may be placed underneath the magnetic pages or in the clear plastic pockets of both small and large photo albums. Symbols may also be attached to the notebook divider pages of a three-ring binder. Communication books allow for a number of symbols to be displayed, although it sometimes can become bulky and awkward to transport.



Notebook Display

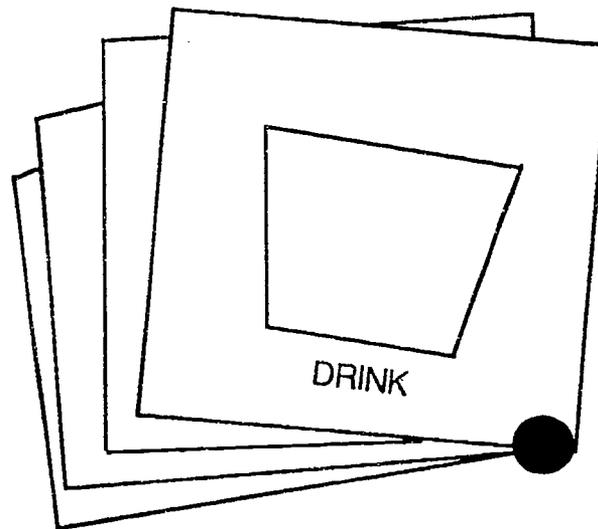
Communication Wallet - A wallet provides a very portable means of displaying two-dimensional symbols. Symbols can be placed on cards that are inserted into the credit card sleeves. They can also be affixed to the inside surface of the wallet with Velcro. Although wallets are easily portable, only a limited number of symbols may be displayed at one time.

Developing and Evaluating a Model of Inservice and Technical Assistance to Prevent Challenging Behavior in Preschoolers, Grant # H024P10017.



Fold-Out Wallet

Fan array - A fan array consists of graphic symbols placed on cards, that are bound together by a ring or chain. Each card has a hole punched in one corner. A metal ring or flexible chain holds the cards together. This display method allows the learner to access the symbols by sliding his/her palm across the array in order to separate the cards from one another. The learner may then select the desired symbol when it comes into view. This type of display may be useful for learners who find it difficult to turn the pages of a book.



**How are graphic symbols arranged on a given display?**

Symbols may be arranged on any of the previously described displays according to one or a combination of the following:

The learner's schedule: The graphic symbols may be arranged on/in a communication display according to the environments/activities in which the learner is going to partake. For example, symbols needed to communicate about the morning routine (e.g., washing, getting dressed, etc.) may be arranged on the first page of a communication book (or on a separate overlay for a communication board). Upon arriving at school the first activity each day may be "Show and Tell". Therefore, the second page of the book (or second overlay) may contain symbols that the learner can use to communicate during this activity (e.g., "Let me see!", or "It's my turn now.").

Syntactically: Learners who are stringing symbols together may benefit from having them arranged in a sequence that is syntactically correct. For example, the proper nouns (e.g., persons' names) may be placed on the left side of the communication board (or on the left side of a page in the learner's communication book). Verbs may be placed in the middle of the board or page, and nouns describing activities or objects may be placed on the right side. This way the learner can form a sentence selecting one symbol from each of the three sections (e.g., "Mary" "went" and "store". Therefore communicating the message, "Mary went to the store".

Frequency of use: Graphic symbols may also be arranged according to the frequency in which they are selected. For example, if a learner enjoys gaining attention from his/her peers, symbols such as "Come visit with me" or "Let's play a game together" may be arranged on the display so that s/he may access them quickly and efficiently.

### **How does the learner select a desired symbol?**

The term selection technique refers to the way a learner selects symbols on his graphic communication display (board, book or wallet). Two selection techniques are **direct selection** and **scanning**.

**Direct Selection** - Using direct selection the learner identifies a desired symbol by pointing of his own volition. The learner can touch the symbol with a finger or with other body parts such as an elbow, toe or heel. Other learners who are more physically involved may require an adaptation in order to directly select a symbol

(i.e., a hand held pointer) or may select the symbol by gazing at it for an extended amount of time. Some commonly used adaptations/methods for direct selection are:

hand held pointer -

A hand held pointer, is a dowel rod held or attached to the learner's hand, used to directly point to a desired symbol. It is used by learners who have some voluntary movement of their hands, but do not have adequate pointing abilities. Some learners may be able to grasp the pointer without any additional support. Other learners may require a splint in order to keep the pointer in place.

head stick - A dowel rod is attached to a head band and the learner uses the rod to point to desired symbols. A head stick is used by learners who do not have voluntary movement of their arms but do have good head control.

head-mounted light pointer - A light beam pointer is attached to the top or the side of a head band. The learner then shines his/her light on the desired symbol. Used by learners without voluntary movement of their arms who do have good head control.

eye gaze - (also known as eye pointing) a learner may select a symbol by gazing at it for an extended period of time. This selection method works well when the learner has a large display surface with widely spaced symbols. This facilitates the learner's ability to discern which symbol the learner is selecting.

**Scanning** - Choices are menued for a learner and the learner then indicates his/her choice by performing this predetermined discrete body movement, called a signaling response. In order to engage in scanning, the learner must be able to produce one discrete body movement (i.e., head nod, hand movement, vocalization). Because scanning requires only one discrete body movement in order to gain access to vocabulary, scanning is often used by a variety of learners whose motor impairments prohibit them from using direct selection.

Generally, there are two ways in which vocabulary may be menued for a learner: **visually or auditorily**. Additionally, each of these methods of menuing

vocabulary can be done by means of nonelectronic scanning or electronic scanning.

### Visual Scanning

In visual scanning, the learner observes the symbol array while the vocabulary items are menued. When the learner observes the desired symbol being menued, s/he engages in the signaling response. In visual scanning, the vocabulary items may be menued nonelectronically (manually) or electronically.

1. Non-electronic (manual) visual scanning

In manual scanning a communication partner menus the symbols in the array by pointing to them. When the partner reaches the desired item, the learner signals by performing the predetermined response (i.e., raises his hand). Many times parents engage in manual scanning with their young children. For example, while shopping in a toy store a young child sees a toy car on the shelf above his head. He begins to point in the direction of the shelf saying, "Want that". Not sure of what toy the child is pointing to, the father goes over to the shelf and begins to menu the choices. He points to each toy one at a time and waits for a response from his son. When the father points to the toy car the son smiles and nods his head, indicating to his father that the car is the desired toy.

2. Electronic visual scanning

In electronic visual scanning the items are menued by an electronic device. The symbols are displayed on a grid of small lights. A light or a series of lights, illuminate in order to menu the choices. Although there is a variety of electronic scanning methods (See section on scanning), essentially when the light under or on top of a desired symbol is illuminated, the learner activates a switch. The switch activation causes the message that corresponded to the symbol to be spoken.

### Auditory Scanning

Auditory scanning involves the verbal menuing of vocabulary items. When the learner hears the item that s/he would like to select, s/he emits a signalling response. Vocabulary items may be auditorally menued for a learner non-electronically or by means of an electronic communication aid.

1. **Non electronic auditory scanning**  
Involves a communication partner auditorally presenting choices for the learner. When the desired choice is spoken, the learner executes the predetermined signaling response. Non-electronic auditory scanning is often used during conversations between two speaking partners. For example, if a friend and I were trying to decide what to have for lunch, I might auditorally menu choices for her. I might say, "Do you want pizza?", "Do you want a salad?", "Do you want a burger?" Upon menuing the meal that my friend would like to eat she might respond by saying "Good idea! Let's have a burger!"
  
2. **Electronic auditory scanning**  
Involves an electronic communication aid auditorally presenting choices for the learner. When the desired choice is spoken, the learner executes the predetermined signaling response. The electronic communication aid may be programmed to menu each message in its entirety, that the learner may wish to communicate (e.g., "I want to go the the store", "I want to play with my toys"), or one or two words may be menued (e.g., "store", "toys"). In the latter example, when the learner activates a switch the entire message that corresponds to the menued word is spoken (e.g., "I want to play with my toys").

### **Combining direct selection and scanning**

Some learner's might benefit from a communication system that incorporates both direct selection and scanning techniques. For example, this approach would be appropriate for learners who have some direct select skills, but are unable to sustain these required movements for an extended period of time. There are a number of ways in which both of these techniques may be combined.

1. An array of enlarged symbols consisting of important and/or frequently used symbols (i.e., "Don't want") can be combined with an array of small symbols that could be accessed via a scanning techniques. Such an array is illustrated in Fig. \_\_\_\_\_).

WHAT'S NEW?	MORE <input type="radio"/>	LET'S TAKE A BREAK <input type="radio"/>	I'M HUNGRY <input type="radio"/>	RADIO <input type="radio"/>
	GROCERY STORE <input type="radio"/>	BURGER KING™ <input type="radio"/>	SHOPPING MALL <input type="radio"/>	VIDEO STORE <input type="radio"/>
HELP	SODA POP <input type="radio"/>	JUICE <input type="radio"/>	MILK <input type="radio"/>	WATER <input type="radio"/>
	I'M FEELING SAD <input type="radio"/>	I AM ANGRY <input type="radio"/>	MY HEAD HURTS <input type="radio"/>	MY STOMACH HURTS <input type="radio"/>
ALL DONE	WANT		DONT WANT	

2. Some learners may not be able to point to a single symbol on their communication board, but can directly select a section of the board. For such learners a board that is clearly divided into sections would allow the learner to actively participate in the communicative exchange. The learner would first directly select a section of the board, and then signal to his/her partner to begin manually scanning the items within the section. This type of communication display is illustrated in Fig.\_\_\_\_\_. This concept may also be applied when using a communication book. The learner may directly select the page and then his or her partner can menu the symbols.

I'M ANGRY	I'M UPSET	RADIO	TAPE PLAYER
I'M FINISHED	I DON'T WANT TO	CRAYONS	BLOCKS
ORANGE JUICE	MILK	MOVIES	BURGER KING
SODA POP	GRAPE JUICE	SHOPPING MALL	PIZZA

3. A learner who is capable of engaging in both direct selection and scanning may use both of these techniques, depending on their environment. For example, some learners who are physically involved may only be able to access their direct select system (i.e., communication board) while they are positioned in their wheel chairs. Such learners may engage in a scanning technique (i.e., manual or auditory scanning) while out of their chairs and in bed or on the floor.

**What are the advantages and disadvantages of direct selection and scanning?**

The advantages and disadvantages of direct selection and scanning are presented in Fig.

## ADVANTAGES AND DISADVANTGES OF SELECTION TECHNIQUES

TECHNIQUE	ADVANTAGES	DISADVANTAGES
•Direct Selection	<ul style="list-style-type: none"> <li>•Tends to be the fastest selection option</li> <li>•The learner plays an active part in the communication process</li> </ul>	<ul style="list-style-type: none"> <li>•Requires some degree of motor control (with the exception of electronic eyegaze systems)</li> </ul>

TECHNIQUE	ADVANTAGES	DISADVANTAGES
•Scanning	<ul style="list-style-type: none"> <li>•Allows learners with very limited motor control to access vocabulary</li> <li>•Provides learners who are not always capable of accessing their direct select system, with a means of communicating</li> </ul>	<ul style="list-style-type: none"> <li>•Very time consuming</li> <li>•The learner tends not to be an active participant in the communicative process (with the exception of directed scanning)</li> </ul>

# High-probability Request Sequence

## What is a high-probability request sequence?

A high-probability request sequence is an intervention strategy that can be implemented to increase children's participation in activities that generate escape motivated challenging behavior. This strategy involves establishing a chain of high-probability and low-probability requests. A **high-probability request** is one to which a child typically complies or performs. A **low-probability request** is one to which an individual child does not typically comply. In a high-probability request sequence, the interventionist delivers 3-5 high-probability requests immediately prior to delivering a low-probability task request. Compliance to the high-probability requests increases the likelihood that the child will comply with the low-probability request. There are a variety of explanations for why high-probability request sequence is successful in increasing child compliance.

## For whom are high-probability requests useful?

The high-probability request sequence may be useful when the interventionist is interested in increasing the child's participation on activities that generate escape motivated behavior.

## How do I implement a high-probability request intervention?

Step 1: Identify a set of high-probability requests. High-probability requests are requests presented by the interventionist to which the child will typically comply (at least 80% of the time). Interviewing staff and observing the child in the context of his/her daily routine are good strategies to use in beginning to identify the high-probability requests.

Step 2: Identify a set of low-probability requests. Low-probability requests are those requests presented by the interventionist to which the child will typically not comply (less than 50% of the time). Interviewing staff and observing the child in the context of his/her daily routine are good strategies to use in beginning to identify the low-probability requests.

Step 3: Ensure the validity of the high-probability and low-probability requests. It is necessary to ensure that the set of requests generated in Step 1 and Step 2

accurately represent high-probability and low-probability requests, respectively. This can be accomplished by delivering each of the requests a number of times (e.g., 10 times across 2-3 days) and recording whether the child complied to the requests (e.g., a "+" if the child complies and a "-" if the child does not comply).

Figure 1 presents data that illustrates the procedure for ensuring the validity of the high-probability requests and Figure 2 for the low-probability requests for a four-year-old child named Kelly. The interventionist administered each of these requests 10 times across 2 days. As noted by the figures, the high-probability requests that were identified for Kelly were "give me five," "clap your hands," "touch your nose," "point to the table," and "touch the floor." The low-probability requests that were identified for Kelly were "go to the table" and "pick up the toy." Figure 1 indicates that all but one of the potential high-probability requests met the necessary criteria. The request that did not meet the necessary criteria ("touch your nose") was eliminated from the list of the high-probability requests that will be used in the intervention.

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Insert Figures 1 and 2 about here

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Step 4: Implement the high-probability request sequence. The high-probability request sequence is implemented by delivering 3-4 of the high-probability requests and providing verbal praise for the child's compliance to each request. For Kelly, the identified high-probability requests consist of "clap your hands," "touch the floor," and "point to the table." Thus, the interventionist would implement the a sequence of the three high-probability requests at the time she was going to deliver the low-probability request. The sequence might be as follows:

Teacher: "Kelly, clap your hands."  
Kelly: Claps hands  
Teacher: "Great job."  
Teacher: "Point to the table."  
Kelly: Points to the table  
Teacher: "Yeah."  
Teacher: "Touch the floor."

Kelly: Touches the floor  
Teacher: "Way to go."

Step 5: Deliver the low-probability request. Immediately following the delivery of the high-probability request sequence, the interventionist delivers the low-probability request. For example, as mentioned in the previous example, Kelly does not typically comply with the interventionist's request to "go to the table." An example of the use of the high-probability and low-probability requests in the context of the intervention is as follows:

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Insert Figure 3 about here

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### **Special considerations:**

During the course of the high-probability request intervention, it will be important to randomize the order of the high-probability requests that are directed to the child. In other words, do not consistently deliver the same high-probability requests in the same sequence. Varying the sequence of high-probability requests will increase the probability that the child does not "learn" that a high-probability request sequence always precedes a low-probability request and therefore stop complying to the high-probability requests. Therefore, it will be necessary to determine a large pool of high-probability requests to choose from when delivering the high-probability request sequence. See Figure 4 for an example of rotating the high-probability request sequence.

### **How do I keep track of the child's progress?**

In order to keep track of the child's progress, it will be necessary to monitor his/her performance during the intervention. As a model, let us consider the previous example regarding Kelly. In order to keep track of Kelly's progress, her interventionist has developed a progress sheet (see Figure 3). As you can see, this progress sheet contains columns that list the low-probability task requests. For each of these columns, the interventionist: a) records the date, b) delivers the high-probability requests, c) indicates with a "+" or a "-" whether the child complies to each of the high-probability requests, d) delivers the low-probability request, and e) indicates with a "+" or a "-" whether the child complies with the low-probability request.

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Insert Figure 4 about here

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### **How do I know if the program is working?**

By keeping track of the child's progress, you will be able to determine if the intervention is successful or not. This will be done by examining the child's progress over a period of time using the information obtained from the progress sheet. You can see by examining Figure 4 that when the interventionist delivered the low-probability request "time to go to the tables," Kelly responded correctly 8 out of 10 times. Figure 5 summarizes this progress. We can see along the horizontal axis are the individual opportunities that Kelly was given the low-probability request. The vertical axis tells us if that opportunity was responded to correctly and the total number of correct responses across all trials. We can see that Kelly responded correctly to opportunities 1 and 2; however, on opportunity 3, she did not respond correctly (i.e., did not go to the table). Again, we note that on opportunity 5 she did not respond correctly. If we examine the graph to see how many total correct responses across all of the opportunities, we see that the last data point indicates she responded correctly to 8 (vertical axis) out of 10 opportunities. Based on this figure, it is evident that the high-probability request intervention is increasing Kelly's compliance to the low-probability requests.

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Insert Figure 5 about here

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### **How do I troubleshoot problems that might arise?**

In the event that the high-probability request sequence does not appear to be achieving the desired results, it will be important to accurately identify the problem. If we examine the second summary graph "Pick up the toy," we can conclude that something is not working. To determine possible causes for the ineffectiveness, it is necessary to examine the child's progress sheet and look for components of the program that are not progressing smoothly. For example, at some point during the implementation of the program, the child may consistently stop complying to one of the high-probability requests. If this occurs, the interventionist should identify an alternative high-probability request that can be utilized in the intervention. By examining Kelly's progress sheet for this low-probability request (Figure 4, column 2),

we can see that Kelly has stopped responding correctly to the high-probability request "Clap your hands." The interventionist should drop the request to "clap your hands" from the sequence and replace it with another from the pool of high-probability requests.

Robert is another child who hits and screams when his teacher requests that he "Sit in his chair" for group time. His teacher has decided to use a high-probability request sequence to increase his appropriate response to the request and decrease hitting and screaming. Figure 6 shows a summary graph of the first ten trials the high-probability request sequence was used. As we can see the first four trials were successful; however, the remaining 6 trials indicate that Rob did not respond to the low-probability request. If we examine the progress sheet in Figure 7 we notice that all of the high-probability request sequences use the same requests in the same order, "Give me five," "Touch your shoes," and "Jump up." At this point, we might decide that Rob has learned that his teacher asks him to "Give me five," "Touch your shoes," and "Jump up" just prior to asking him to "Sit in his chair." That is, Rob has learned that the high-probability sequence always precedes him having to perform an undesirable activity (i.e., sitting in his chair). The interventionist should be sure to randomize the sequence of high-probability requests; that is, every high-probability sequence should be different. Additionally, the interventionist should use a large number of high-probability request so that interventionist will have more opportunity to make the sequences different.

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Insert Figures 6 and 7 about here

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Figure 1

**Validity of the High Probability Task Requests**

Student Name: \_\_\_\_\_  
Data Collector: \_\_\_\_\_

- Directions:
- write the date in the space indicated
  - write the task request in the space indicated
  - deliver the indicated task request
  - place a "+" or a "-" to indicate whether the learner complied with the request
  - calculate overall percent compliance for each task request

**High Probability Task Requests**

Task Request: Give me five.

Date	Opportunity #	Compliance to task request (+ or -)
_____	1	+
_____	2	+
_____	3	+
_____	4	+
_____	5	+
_____	6	+
_____	7	+
_____	8	+
_____	9	+
_____	10	+

Percent Compliance

**High Probability Task Requests**

Task Request: Point to the table.

Date	Opportunity #	Compliance to task request (+ or -)
_____	1	+
_____	2	+
_____	3	+
_____	4	+
_____	5	+
_____	6	-
_____	7	+
_____	8	+
_____	9	+
_____	10	+

Percent Compliance

Task Request: Clap your hands.

Date	Opportunity #	Compliance to task request (+ or -)
_____	1	+
_____	2	+
_____	3	+
_____	4	+
_____	5	-
_____	6	+
_____	7	+
_____	8	-
_____	9	+
_____	10	+

Percent Compliance

Task Request: Touch the floor.

Date	Opportunity #	Compliance to task request (+ or -)
_____	1	+
_____	2	+
_____	3	+
_____	4	+
_____	5	+
_____	6	-
_____	7	-
_____	8	+
_____	9	+
_____	10	+

Percent Compliance

Task Request: Touch your nose.

Date	Opportunity #	Compliance to task request (+ or -)
_____	1	+
_____	2	+
_____	3	-
_____	4	-
_____	5	+
_____	6	-
_____	7	-
_____	8	-
_____	9	+
_____	10	-

Percent Compliance

Task Request: Touch your head.

Date	Opportunity #	Compliance to task request (+ or -)
_____	1	+
_____	2	+
_____	3	+
_____	4	+
_____	5	+
_____	6	+
_____	7	+
_____	8	+
_____	9	+
_____	10	+

Percent Compliance

Figure 2

Validity of the Low Probability Task Requests

Student Name: \_\_\_\_\_  
 Data Collector: \_\_\_\_\_

- Directions: a) write the date in the space indicated  
 b) write the task request in the space indicated  
 c) deliver the indicated task request  
 d) place a "+" or a "-" to indicate whether the learner complied with the request  
 e) calculate overall percent compliance for each task request

Low Probability Task Requests

Task Request: <u>Go to the table.</u>		
Date	Opportunity #	Compliance to task request (+ or -)
_____	1	_____
_____	2	_____
_____	3	_____
_____	4	_____
_____	5	_____
_____	6	_____
_____	7	_____
_____	8	_____
_____	9	_____
_____	10	_____

Percent Compliance

Low Probability Task Requests

Task Request: <u>Pick up the toy.</u>		
Date	Opportunity #	Compliance to task request (+ or -)
_____	1	_____
_____	2	_____
_____	3	_____
_____	4	_____
_____	5	_____
_____	6	_____
_____	7	_____
_____	8	_____
_____	9	_____
_____	10	_____

Percent Compliance

Task Request: _____		
Date	Opportunity #	Compliance to task request (+ or -)
_____	1	_____
_____	2	_____
_____	3	_____
_____	4	_____
_____	5	_____
_____	6	_____
_____	7	_____
_____	8	_____
_____	9	_____
_____	10	_____

Percent Compliance

Task Request: _____		
Date	Opportunity #	Compliance to task request (+ or -)
_____	1	_____
_____	2	_____
_____	3	_____
_____	4	_____
_____	5	_____
_____	6	_____
_____	7	_____
_____	8	_____
_____	9	_____
_____	10	_____

Percent Compliance

Task Request: _____		
Date	Opportunity #	Compliance to task request (+ or -)
_____	1	_____
_____	2	_____
_____	3	_____
_____	4	_____
_____	5	_____
_____	6	_____
_____	7	_____
_____	8	_____
_____	9	_____
_____	10	_____

Percent Compliance

Task Request: _____		
Date	Opportunity #	Compliance to task request (+ or -)
_____	1	_____
_____	2	_____
_____	3	_____
_____	4	_____
_____	5	_____
_____	6	_____
_____	7	_____
_____	8	_____
_____	9	_____
_____	10	_____

Percent Compliance

Figure 3

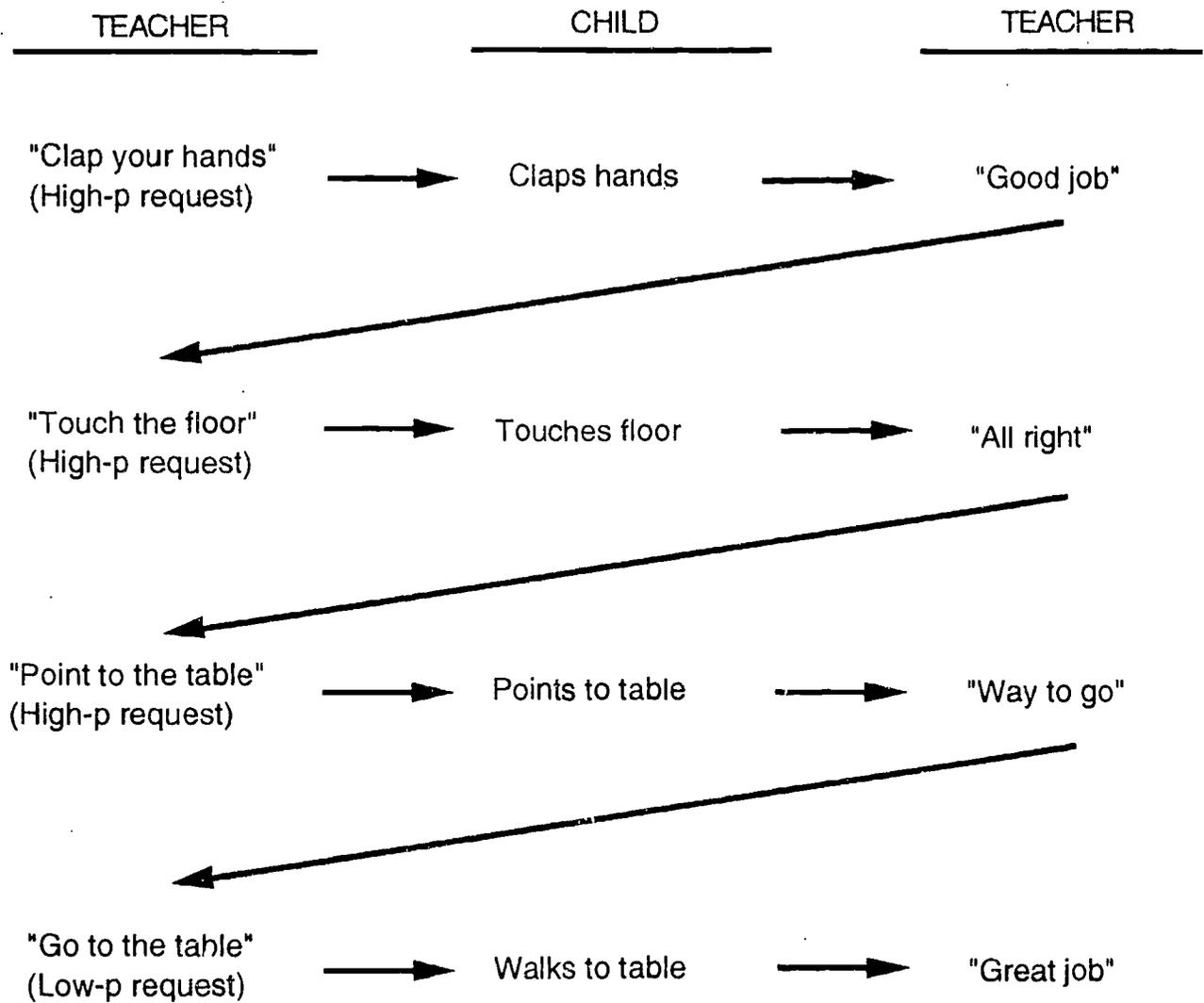


Figure 4

**High Probability Request Sequence Progress Sheet**

Student Name: \_\_\_\_\_  
 Data Collector: \_\_\_\_\_

- Directions: a) write the low probability task request in the space indicated.  
 b) write the date in the space indicated.  
 c) deliver the indicated high probability task requests  
 d) place a "+" or a "-" in the box to indicate whether the learner complied with the low probability request

Low Probability Task Request: _____		
Date	Compliance to high probability task request (+ or -)	Compliance to low probability task request (+ or -)
	Give me five Touch your head Touch the floor	
	Clap your hands Touch the floor Point to the table	
	Touch the floor Point to the table Give me five	
	Point to the table Touch the floor Touch your head	
	Point to the table Touch the floor Clap your hands	
	Touch the floor Touch your head Give me five	
	Touch your head Give me five Point to the table	
	Point to the table Touch the floor Give me five	
	Touch the floor Point to the table Give me five	
	Touch your head Give me five Point to the table	

Low Probability Task Request: _____		
Date	Compliance to high probability task request (+ or -)	Compliance to low probability task request (+ or -)
	Clap your hands Give me five Point to the table	
	Give me five Clap your hands Touch the floor	
	Point to the table Give me five Clap your hands	
	Clap your hands Touch the floor Point to the table	
	Touch the floor Clap your hands Give me five	
	Point to the table Touch the floor Clap your hands	
	Point to the table Give me five Clap your hands	
	Point to the table Touch the floor Clap your hands	
	Touch the floor Clap your hands Give me five	
	Clap your hands Give me five Point to the table	

Figure 5

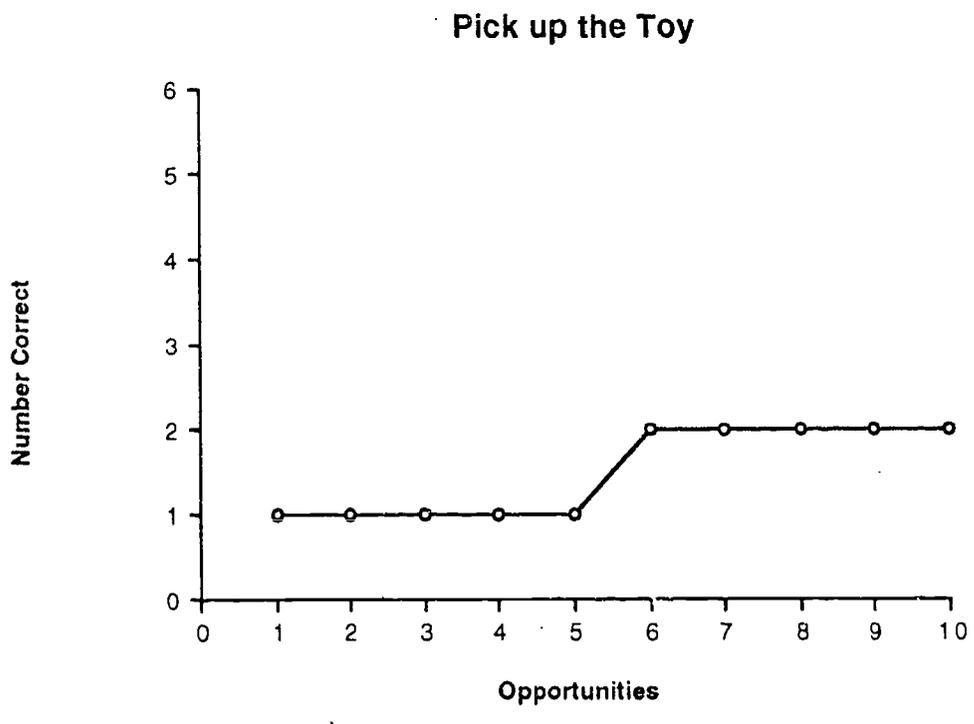
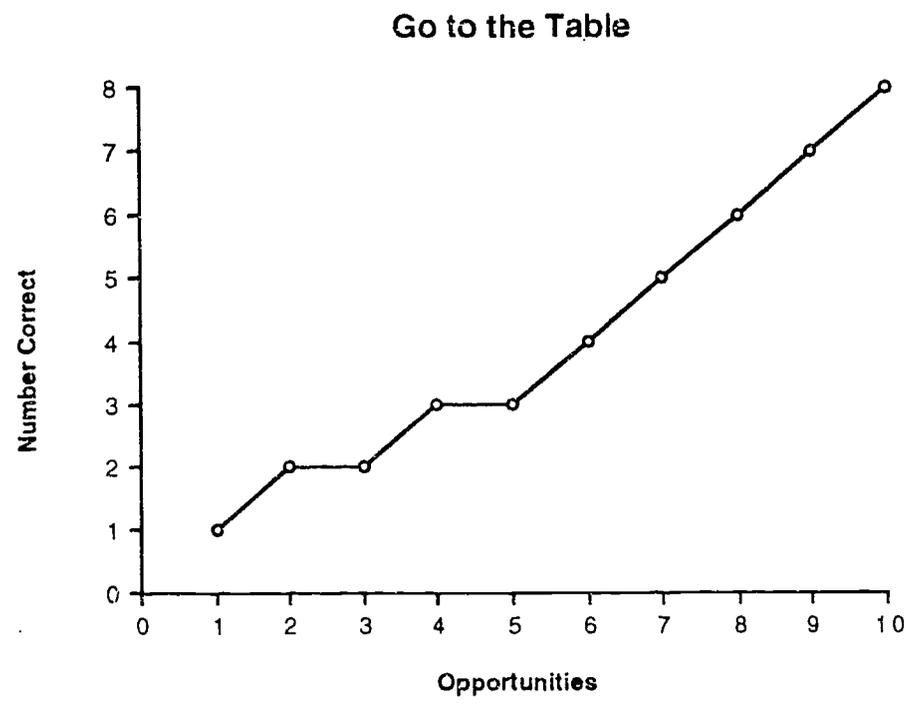


Figure 6

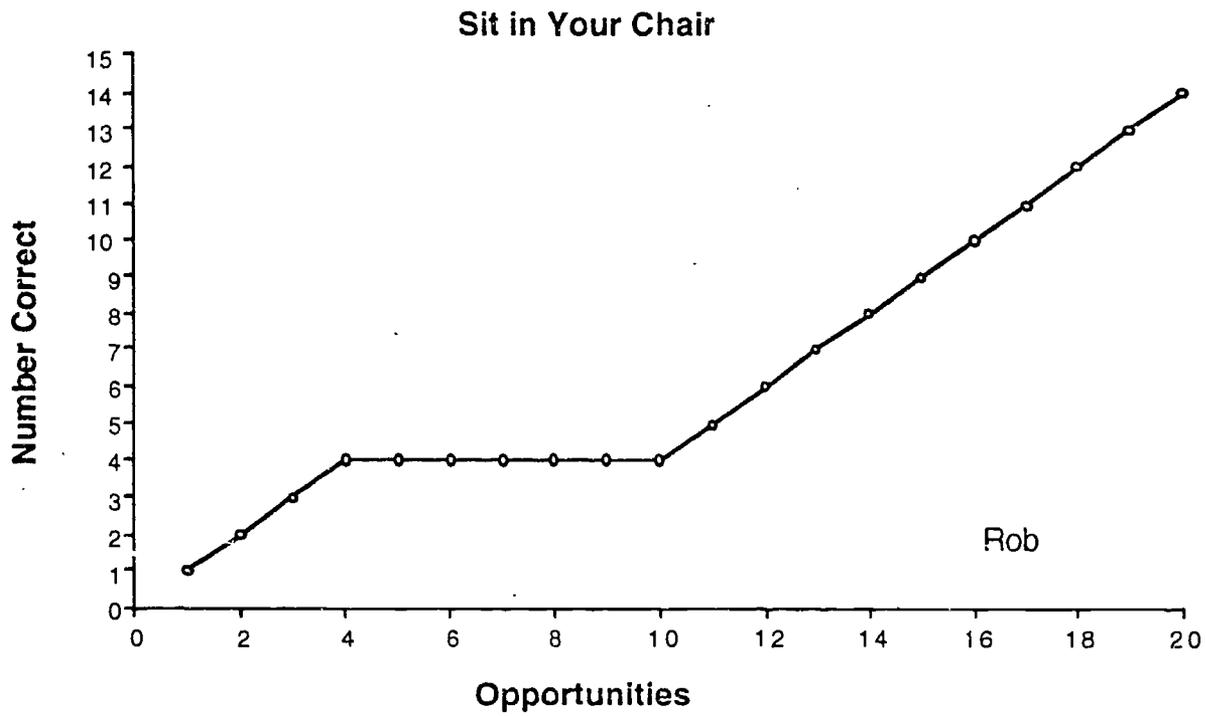


Figure 7

**High Probability Request Sequence Progress Sheet**

Student Name: \_\_\_\_\_  
 Data Collector: \_\_\_\_\_

- Directions: a) write the low probability task request in the space indicated.  
 b) write the date in the space indicated.  
 c) deliver the indicated high probability task requests  
 d) place a "+" or a "-" in the box to indicate whether the learner complied with the low probability request

Low Probability Task Request: _____		
Date	Compliance to high probability task request (+ or -)	Compliance to low probability task request (+ or -)
	Give me five + Touch your shoes + Jump up +	+
	Give me five + Touch your shoes + Jump up +	+
	Give me five + Touch your shoes + Jump up +	+
	Give me five + Touch your shoes + Jump up +	+
	Give me five + Touch your shoes + Jump up +	-
	Give me five + Touch your shoes + Jump up +	-
	Give me five + Touch your shoes + Jump up +	-
	Give me five + Touch your shoes + Jump up +	-
	Give me five + Touch your shoes + Jump up +	-
	Give me five + Touch your shoes + Jump up +	-

Low Probability Task Request: _____		
Date	Compliance to high probability task request (+ or -)	Compliance to low probability task request (+ or -)
	Clap your hands + Give me five + Point to the table +	+
	Give me five + Clap your hands + Touch your shoes +	+
	Point to the table + Jump up + Clap your hands +	+
	Clap your hands + Touch the floor + Point to the table +	+
	Touch the floor + Jump up + Give me five +	+
	Point to the table + Touch your shoes + Clap your hands +	+
	Point to the table + Give me five + Clap your hands +	+
	Jump up + Touch your shoes + Clap your hands +	+
	Touch the floor + Clap your hands + Give me five +	+
	Clap your hands + Give me five + Touch your shoes +	+

# Teaching a Tolerance for Delay of Reinforcement

## What is teaching a tolerance for delay of reinforcement?

Teaching a tolerance for delay of reinforcement is a strategy that uses two different cues, a delay cue and a safety signal. The delay signal is used to signal to the individual the wait period and the safety signal is used to signal a release to reinforcement. The procedure's purpose is to increase the amount of time a child will continue to participate in activity without engaging in challenging behavior.

For example, Eric will participate in an art activity for a short period of time before he begins to engage in challenging behavior to escape the art activity. The teacher can implement this strategy to teach Eric to tolerate a delay of reinforcement (i.e., escaping from the art activity) for increasingly longer periods of time without engaging in challenging behavior. In another situation, Karen engages in challenging behavior when she is not able to obtain a preferred item as soon as she makes the request. The teacher in this situation can implement this strategy to teach Karen to tolerate the delay in obtaining the preferred or requested object.

## What is a delay signal?

A delay signal is a verbal or gestural signal that is given to a child to indicate that the teacher will soon deliver reinforcement contingent on the emission of socially acceptable behavior. That is, the delay signal informs the child that the activity that he/she is trying to escape is about to end or the item that he/she is trying to obtain is about to be delivered if she/he does not engage in challenging behavior. For Eric, who is escape motivated, the reinforcement is to escape from or termination of the task. In the example with Karen, whose challenging behavior is a function of her

inability to access or obtain an object, the reinforcement is her access to a preferred object. The delay signal is used to teach a child to continue in the task or wait for a short period longer before receiving reinforcement.

### **What is a safety signal?**

A safety signal is a cue either verbal or physical that is given to the child to indicate that a safe period has begun in which he/she will receive the reinforcement promised. A safety signal for Eric might be a verbal statement from the teacher that releases him from the art activity. In this instance, the safety signal is a signal to the child that no demands or requests to perform a certain task (i.e., art activity) will be delivered. When a child wants to obtain an item, such as Karen, a safety signal might be the teacher stating, "Here is the puzzle," while giving her uninterrupted access to the puzzle for a period of time.

### **For whom is teaching a tolerance for delay of reinforcement useful?**

Teaching a tolerance for delay of reinforcement is useful for children who:

- (a) engage in challenging behavior to terminate or escape from an activity in which they have been engaging;
- (b) immediately emit challenging behavior upon presentation of an activity to avoid having to perform the activity; and
- (c) engage in challenging behavior when their request to obtain desired objects, activities, or attention can not be honored immediately.

### **How do I teach a tolerance for delay of reinforcement for children who want to escape situations?**

Step 1: Identify situations. Identify situations when the child seems to be motivated to escape, either immediately upon presentation of the activity or after engaging in the activity for a short amount of time.

Step 2: Determine the critical time period. For each identified situation, determine the amount of time that the child will participate in the activity before she/he engages in challenging behavior. Over repeated occasions (at least three times), record how long the child stays in the activity before she/he emits the challenging behavior. Based on this information, identify the shortest length of time the child will stay in the activity before emitting the challenging behavior. For example, consider Eric who typically engages in challenging behavior to escape from art activities. Over five days, the interventionist counts the seconds between the beginning of the art activity and the child's emission of the challenging behavior. The time periods that Eric engaged in the art activity prior to emitting challenging behavior were 40 seconds, 30 seconds, 35 seconds, 50 seconds, and 60 seconds. Based on these results, the shortest amount of time that the child will engage in the activity is 30 seconds. The critical time period would then be determined to be just less than 30 seconds (i.e., 25 seconds).

Step 3: Choose a delay signal. Choose an appropriate delay signal to indicate that the activity is almost over (e.g., say "one more time," an alarm on a wrist watch, etc.). An appropriate delay signal to keep Eric engaged for a slightly longer period of time might be "Eric, we are almost done."

Step 4: Choose a safety signal. Choose an appropriate safety signal that will let the child know that he/she is released from the task. For Eric, the teacher might decide on "OK Eric, you are finished."

Step 5: Deliver the delay signal. Once the child engages in an activity, the interventionist delivers the safety signal immediately prior to the elapse of the critical time period (identified in Step 2). In our example, after Eric participates in

the art activity for 25 seconds (i.e., the critical time period) the interventionist would deliver the delay cue, "Eric, we are almost done" and have Eric continue to engage in the activity.

Step 6: Deliver the safety signal and release the child from the activity. In the initial stages of the intervention, you will want to deliver the safety signal to the child in a relatively short period of time after the delay cue has been delivered (1-2 seconds). After the short time of continued participation, the safety signal should be delivered. Immediately after the safety signal is delivered, release the child from the activity (assuming he/she is not engaging in challenging behavior). After the teacher delivers the delay cue, "Eric, we are almost done," and Eric stays engaged in the activity for 2 more seconds, the teacher delivers the safety signal, "OK Eric, you are finished," and the teacher allows him to get up and leave the activity.

Step 7: Gradually increase the time spent on task. When the child consistently (i.e., across at least three consecutive opportunities) engages in the activity for the critical time period without emitting challenging behavior, the interventionist will want to gradually increase the amount of time that the child spends engaged in the activity. Listed below and illustrated in Figure 1 are the options an interventionist has for gradually increasing the amount of time:

1. Gradually increase the amount of time that the child engages in the activity prior to the delivery of the delay cue. For example, if a child currently engages in an activity for one minute prior to the delivery of the delay signal, the interventionist may increase this time interval (e.g., one minute and ten seconds). Using Eric as an example, the teacher might require that Eric stay engaged in the art activity for 35 seconds before she says "Eric, we are almost done."
2. Gradually increase the amount of time between the delivery of the delay cue and the release from the activity. For example, if a child currently gets the

delivery of the safety signal and is released from a task immediately following the delivery of the delay cue, the interventionist may increase this time interval. Again, once Eric's teacher delivers the delay cue to Eric, she then extends the time between the delay cue and the safety signal from 2 seconds to 7 seconds, thus increasing the time between the delay signal and the safety signal by 5 seconds.

3. Choose to implement options 1 and 2 concurrently. In other words, the interventionist will increase the amount of time the child engages in the activity prior to the delivery of the delay cue and the time the child engages in the activity between the delivery of the delay cue and the delivery of the safety signal (i.e., release from the activity).

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Insert Figure 1 about here

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#### **Additional considerations:**

Increasing the amount of work completed: The examples thus far have illustrated how a delay signal can be used to increase the amount of time that a child remains engaged in a task. However, a delay signal can also be used to increase the amount of work that a child completes. For example, if a child engages in challenging behavior in order to escape an activity in which he/she must identify picture cards, the interventionist can implement a tolerance for delay of reinforcement/safety signal program by:

- (a) determining the number of events (e.g., picture cards to identify) that the child will perform before he/she begins to engage in challenging behavior (i.e., critical number),
- (b) delivering the delay signal immediately before the critical number (e.g., Kevin, one more card),

- (c) having the child identify one more card,
- (d) delivering the safety signal (e.g., You are all done) and releasing the child from the card activity,
- (e) gradually increasing the number of events that the child performs prior to the delivery of the delay signal and/or gradually increasing the number of cards the child identifies between the delivery of the delay signal and the delivery of the safety signal and release from the activity

Self Monitoring: A delay signal can be designed so that the child is able to monitor his/her own progress. For example, a timer can be placed in view of the child to enable him to observe the amount of time that remains. Similarly, the number of items (e.g., picture cards) that the child is expected to complete can be placed in front of the child to enable him to ascertain the amount of work that remains. For more information on self-monitoring and self regulation please refer to \_\_\_\_\_.

### **How do I teach a tolerance for delay of reinforcement for children who wish to obtain objects, activities, or attention?**

Step 1: Identify situations. Identify situations when the child emits challenging behavior if his/her requests to obtain objects, activities, or attention are not immediately honored.

Step 2: Determine the amount of time that the child will wait to obtain the desired objects, activities, or attention. For each situation that you identify, determine the amount of time that the child will wait to obtain the requested objects, activities, or attention before she/he engages in challenging behavior. Over repeated occasions (at least three times), note how long the child waits before she/he emits the challenging behavior. Based on this information, determine the shortest length of time that the child will wait before she/he emits the challenging behavior (critical time period). For example, recall Karen who was motivated to obtain a puzzle.

Developing and Evaluating a Model of Inservice and Technical Assistance to Prevent Challenging Behavior in Preschoolers, Grant # H024P10017.

Over repeated occasions (e.g., 5 times), the interventionist started a stopwatch when Karen emitted the request to obtain the item and stopped the stopwatch when she emitted the challenging behavior because the request was not honored. The time periods that she waited prior to emitting challenging behavior were 5 seconds, 10 seconds, 15 seconds, 5 seconds, and 5 seconds. Based on these results, the critical time period (the shortest amount of time that the child would wait) was 5 seconds.

Step 3: Choose a delay signal. Choose an appropriate delay signal to indicate that the request is about to be honored (e.g., say, "Karen, just a second," show symbol representing "wait", etc.).

Step 4: Choose a safety signal. Choose an appropriate safety signal to indicate that the request has been honored (e.g., "OK, you can get yourself a coke").

Step 5: Deliver the delay signal. Deliver the delay signal immediately after the child makes his/her request.

Step 6: Deliver the safety signal and allow access to desired object, activity, or attention. Following the delivery of the delay signal, allow the critical time period to elapse prior to delivering the safety signal and allowing the child to access the desired object/activity (assuming that he/she is not engaging in challenging behavior).

Step 7: Gradually increase the time spent waiting. When the child consistently waits for the critical time period without emitting challenging behavior (e.g., meets an arbitrarily selected criterion of three consecutive opportunities), the interventionist can gradually increase the amount of time that the child waits prior to obtaining the requested object, activity, or attention. Figure 2 illustrates that the interventionist can gradually increase the amount of time that passes between the delivery of the delay signal and the delivery of the safety signal and access to the desired object, activity, or attention. For example, after Karen has been successful across 3

opportunities where she waits 5 seconds between the delay cue and the safety signal and access to the puzzle, her teacher might decide to increase the amount of time Karen must wait to 10 seconds before delivering the safety signal and access to the puzzle.

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Insert Figure 2 about here

---

**Additional considerations:**

Increasing the number of events: The examples thus far have illustrated how a delay signal can be used to increase the amount of time that a child waits. However, a delay signal can also be used to increase the number of events that a child waits before receiving the reinforcement (e.g., number of individuals that play with a desired object before it is the child's turn). For example, No-Hoon engages in challenging behavior to obtain an opportunity to play with an electronic game, the interventionist can implement a tolerance for delay of reinforcement/safety signal program by:

- (a) determining the number of turns that No-Hoon will wait before engaging in challenging behavior (i.e., critical number);
- (b) delivering the delay signal immediately following the child's request;
- (c) allowing the critical number of turns to elapse;
- (d) allowing the No-Hoon to access the desired item (i.e., the electrical game);  
and
- (e) gradually increasing the number of turns that the child waits between the delivery of the delay signal and the delivery of the safety signal and opportunity to access the desired object/activity.

Self Monitoring: A delay signal can be designed so that the child is able to monitor his/her own progress. For example, a timer can be placed in view of the child to enable him to observe the amount of time that remains. Similarly, the number of

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events that the child must wait through can be representing visually (e.g. with symbols) to enable him to ascertain the number of events that the he/she must wait through. For more information on self monitoring and self regulation please refer to \_\_\_\_\_.

### **How do I keep track of the child's progress?**

To keep track of the child's progress, it will be necessary to monitor the tolerance for delay of reinforcement program across opportunities. If you recall, Eric's teacher indicated that he frequently tried to escape from group art activities. The shortest amount of time that Eric would engage in an art activity was 30 seconds so the critical time period was determined to be 25 seconds. To keep track of Eric's progress, his interventionist developed a progress sheet (see Figure 3). As you can see, this progress sheet provides spaces for the interventionist to write the date, write the critical time period, and indicate if challenging behavior occurred during the critical time period. It is evident from Eric's progress sheet that when the critical time period was 25 seconds, he engaged in the art activity without exhibiting challenging behavior. After meeting the interventionist's criterion of participating in the activity for the critical time period without emitting challenging behavior across three consecutive opportunities, the interventionist increased the amount of time that Eric remained in the art activity before the delivery of the delay signal (e.g., added ten seconds to the critical time period). The interventionist repeated this procedure until the critical time period reached 55 seconds. At this point, Eric resumed his challenging behavior. As a result of this return to challenging behavior, Eric's interventionist modified the program by implementing the delay signal using the last successful critical time period (i.e., 45 seconds). Provided no challenging behavior occurred during the prespecified criterion of three consecutive opportunities, the interventionist once again began to

gradually increase the time spent engaged in the activity. This time the teacher decided to increase the time by 5-second intervals instead of 10-second intervals.

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Insert Figure 3 about here

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For another example, consider No-Hoon who engaged in challenging behavior if his request to obtain a desired item (i.e., electronic game) was not immediately honored. After No-Hoon requested the game he would wait for two children to play the game before engaging in challenging behavior; therefore, the critical number of events was determined to be one person. To keep track of No-Hoon's progress, his teacher developed a progress sheet (see Figure 4). It is evident from No-Hoon's progress sheet that when the critical number of events was one, he waited without exhibiting challenging behavior. After meeting the teacher's criterion of waiting without emitting challenging behavior across three consecutive opportunities, the teacher increased the number of children that No-Hoon waited before he was allowed access to the desired item (e.g., added one person to critical number of events). No-Hoon continued to progress and waited for 3 children to take turns playing the game. At this point, No-Hoon resumed his engagement in challenging behavior. As a result of this return to challenging behavior, No-Hoon's teacher modified the program by implementing the delay signal at the last successful critical number of events (e.g., three children). Then, provided no challenging behavior occurred, the interventionist once again began to gradually increase the number of students that No-Hoon was required to wait before receiving access to the electrical game.

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Insert Figure 4 about here

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### **How do I know if the program is working?**

It will be necessary to examine the child's progress over a period of time to determine if the program is working. This will be accomplished using the information obtained from the child's progress sheet. Figure 5 incorporates the information from Eric's progress sheet to determine if the program is working.

Figure 5 illustrates that Eric is progressing nicely during each of the components of the tolerance for delay/safety signal program. With one exception, 55 seconds, the interventionist has been able to consistently increase the amount of time that Eric engages in the art activity.

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Insert Figure 5 about here

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In No-Hoon's case, Figure 6 illustrates that he is now able to wait for four other children to play with the electronic toy without engaging in challenging behavior.

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Insert Figure 6 about here

---

### **How do I troubleshoot problems that might arise?**

In the event that the tolerance for delay of positive reinforcement program does not appear to be progressing smoothly, it will be important to accurately identify the component of the program that is not successful. To do this, it is necessary to examine the child's progress sheet and look for the components of the program with which the child is having difficulty. After these component(s) have been identified, it will be possible to modify the program in order to better meet the child's needs. For example, at some point during the implementation of the tolerance for delay of positive

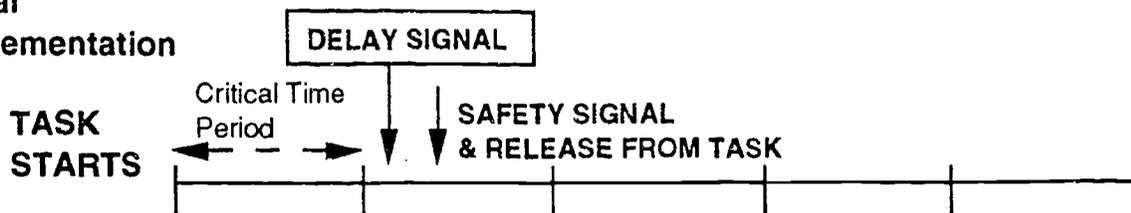
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reinforcement program, the child may resume his/her engagement in challenging behavior (e.g. engage in challenging behavior across three consecutive opportunities). As a result of this return to challenging behavior, the interventionist should modify the program by implementing the delay signal intervention using the last successful critical time period or number of events. Then, provided no challenging behavior occurs during the prespecified criterion (e.g. three consecutive opportunities), the interventionist can once again begin to gradually increase the time or number of events that the child waited.

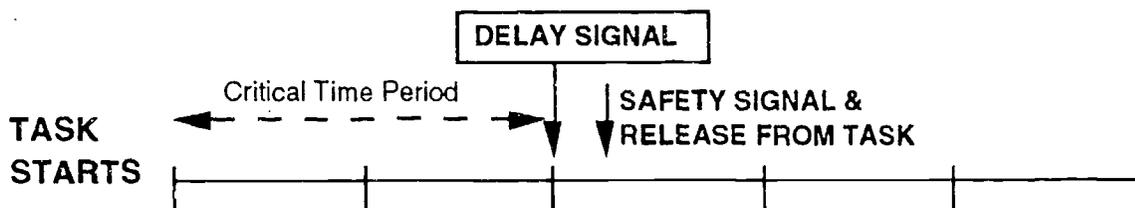
Figure 1

## Gradually Increasing The Time Spent in Activity:

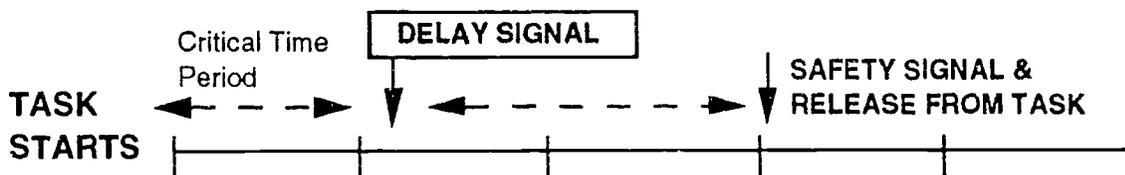
Initial  
Implementation



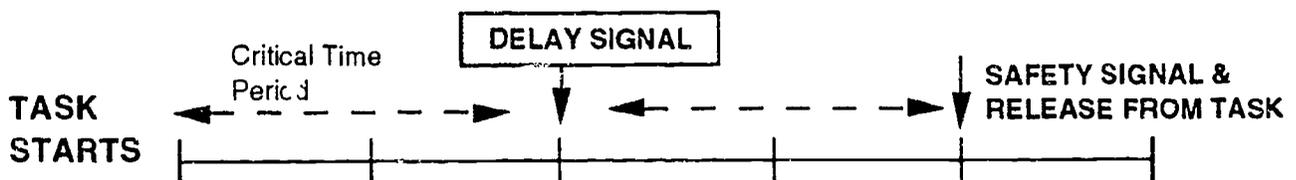
Option a) Increase the amount of time before the delivery of the delay signal.



Option b) Increase the amount of time after the delivery of the delay signal.



Option c) Implement options a) and b) concurrently.

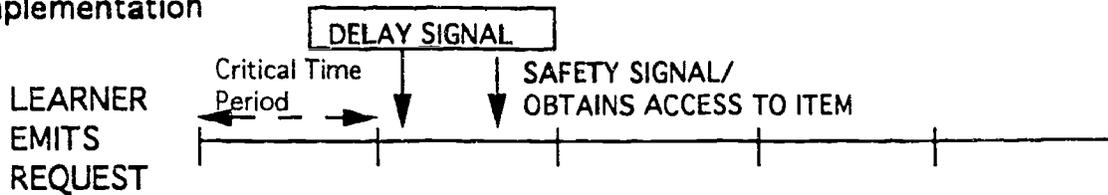


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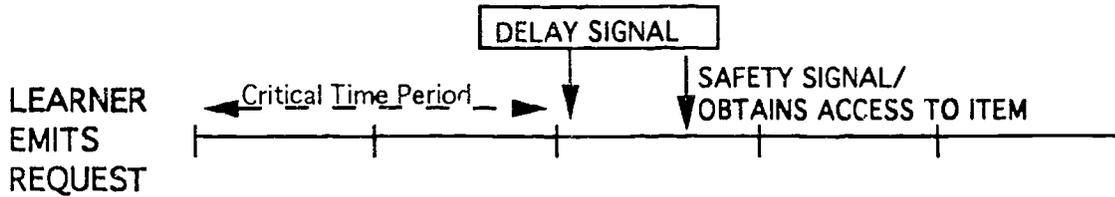
Figure 2

## Gradually Increasing The Time Spent Waiting

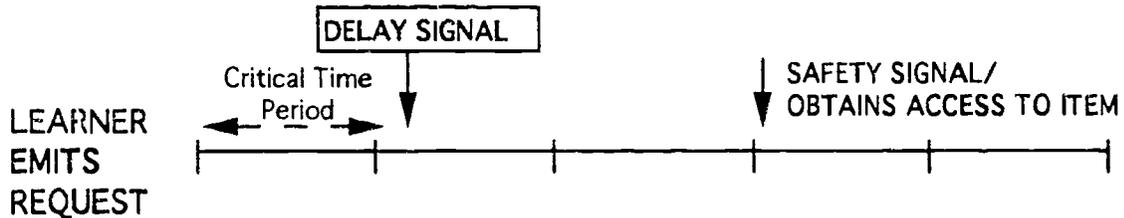
Initial  
Implementation



Option a) Increase the amount of time before the delivery of the delay signal.



Option b) Increase the amount of time after the delivery of the delay signal.



Option c) Implement options a) and b) concurrently.

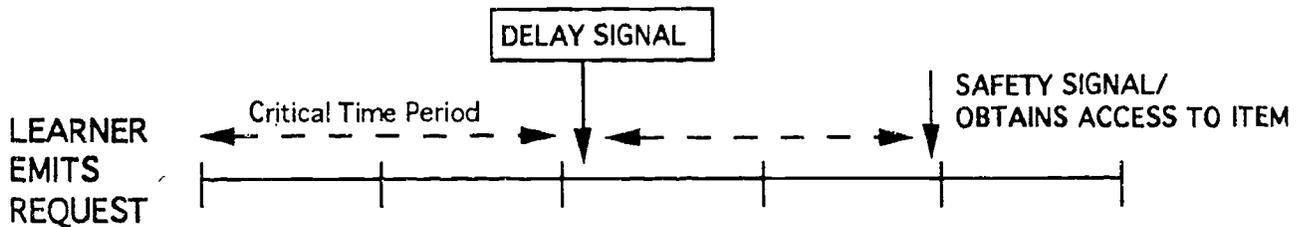


Figure 3

**Tolerance for Delay/Safety Signal Progress Sheet**

Student Name: \_\_\_\_\_

Activity: \_\_\_\_\_

Data Collector: \_\_\_\_\_

Directions : For each opportunity:

a) Write the date.

b) Write the critical time period.

c) Write the time spent engaged in activity.

d) Place an "X" in the appropriate space if challenging behavior occurred.

Date	Critical Time Period	Time Spent Engaged in Activity	Challenging Behavior ("X" if occurred)	Date	Critical Time Period	Time Spent Engaged in Activity	Challenging Behavior ("X" if occurred)
6/23	25sec	25sec		7/6	55 sec	48 sec	X
6/24	25sec	25sec		7/7	45 sec	45 sec	
6/25	25sec	25sec		7/8	45 sec	45 sec	
6/26	35 sec	35 sec		7/9	45 sec	45 sec	
6/27	35 sec	35 sec		7/10	50 sec	50 sec	
6/28	35 sec	35 sec		7/11	50 sec	50 sec	
6/29	45 sec	45 sec		7/12	50 sec	50 sec	
6/30	45 sec	36 sec	X	7/13	50 sec	55 sec	
7/1	45 sec	45 sec		7/14	55 sec	55 sec	
7/2	45 sec	45 sec		7/15	55 sec	55 sec	
7/3	45 sec	45 sec					
7/4	55 sec	50 sec	X				
7/5	55 sec	50 sec	X				

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Figure 4 **Tolerance for Delay/Safety Signal Progress Sheet**

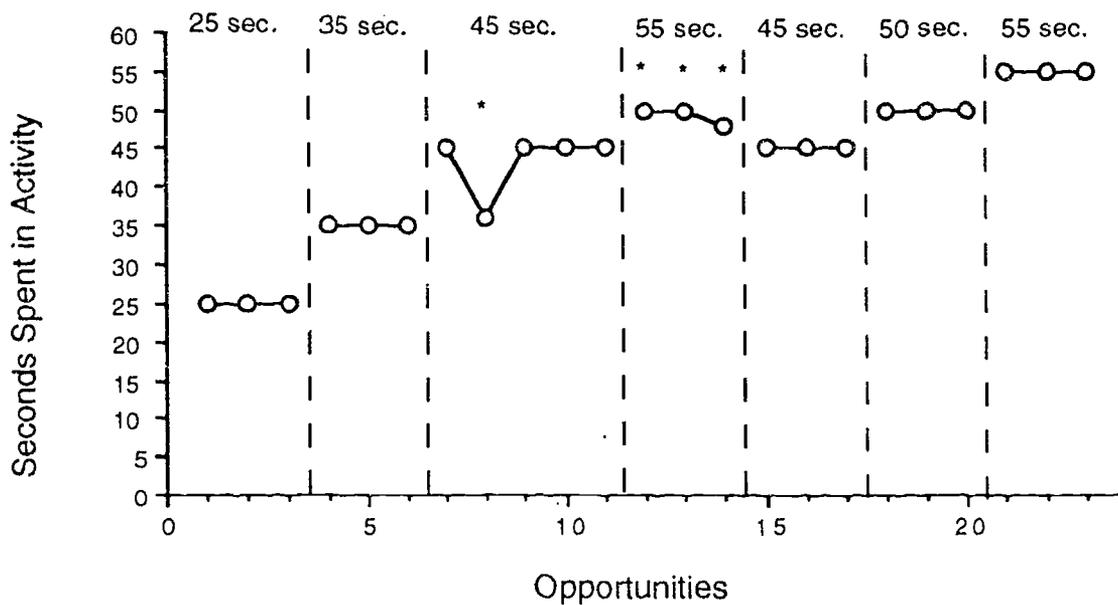
Student Name: \_\_\_\_\_  
Activity: \_\_\_\_\_  
Data Collector: \_\_\_\_\_

Directions : For each opportunity:  
a) Write the date.  
b) Write the critical number of events.  
c) Write the number of events spent waiting.  
d) Place an "X" in the appropriate space if challenging behavior occurred.

Date	Critical # of Events	Number of Events Waited	Challenging Behavior ("X" if occurred)	Date	Critical # of Events	Number of Events Waited	Challenging Behavior ("X" if occurred)
6/23	1	1		7/6	3	3	
6/24	1	1		7/7	3	3	
6/25	1	1		7/8	4	4	
6/26	2	2		7/9	4	4	
6/27	2	2		7/10	4	4	
6/28	2	2					
6/29	3	3					
6/30	3	3					
7/1	3	3					
7/2	4	2	X				
7/3	4	3	X				
7/4	4	3	X				
7/5	3	3					

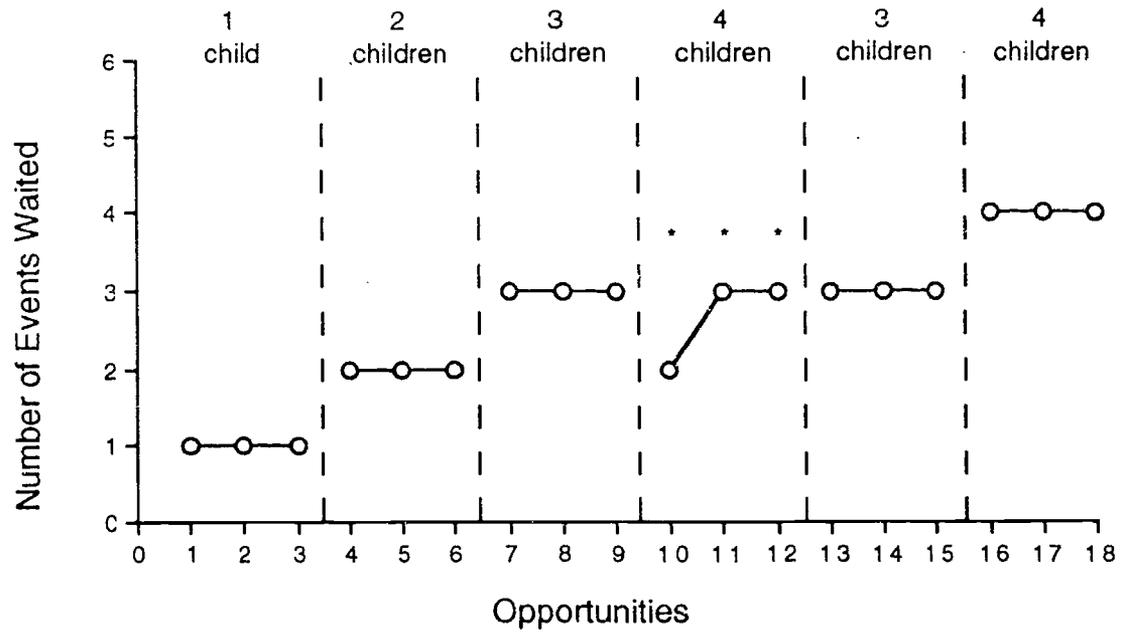
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Figure 5 Time Spent in Art Activity



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Figure 6 **Number of Children Waited in Turn-Taking Activity**



# Embedding

## What is embedding?

Embedding is a strategy whereby a child is requested to perform a task in the midst of an ongoing and enjoyable interaction. It is used during those situations in which there is a good chance the child will not comply with the request. During embedding the child and the adult making the request engage in an interaction which is intended to put the child in a good mood. A good mood can be identified by observing the child responding to, showing interest in, or enjoying the interaction by smiling, laughing, and continuing the interaction. The target request is "slipped in" or embedded into the interaction by the adult.

Salespeople use embedding to make sales. They get the buyer in a good mood by engaging them in a happy, upbeat conversation. The salesperson shows interest in the buyer and compliments them. When the conversation is going along well and the buyer is animated, smiling and responding, the salesperson embeds his request for the customer to make a purchase.

An example of embedding is as follows. Sue refuses to help during class clean-up time. When she is asked to pick up a toy or paper from the floor she may ignore the request, shout "NO!", swear at or bite the person making the request. During class clean up time Mary, the classroom assistant, engages Sue in a conversation about Sue's new puppy. As they walk around the classroom Sue is smiling and gesturing and telling Mary about her puppy's antics. During this time Mary responds with encouraging comments and asks direct questions about Sue's puppy. Mary periodically embeds a request for Sue to pick up a toy or trash from the floor. Examples of Mary's responses are "Oh really! That sounds really cute. Pick up that crayon and put it in the box." "What happened on the walk with your puppy?" Mary waits for Sue's response and then says "Really, put that lego piece in the box."

### **For whom is embedding useful?**

Embedding is used to get a child to participate in a task in which he/she often refuses to get involved. The activity has been identified as one in which the child needs to participate (e.g., Sue needs to help her peers clean up the classroom at the appropriate time, and Jessie is expected to set the table for breakfast and dinner). Embedding is useful for children who: (a) can perform the target activity; (b) engage in challenging behavior to escape or avoid the task; and/or (c) engage in challenging behavior to obtain attention.

There is a history of the child performing the activity previously (e.g., picking up toys), but he/she does not enjoy the activity and avoids it whenever possible by protesting, whining or tantrumming. When the child is seeking attention, there is a history of him/her performing the activity (e.g., setting the table), but the child does not want to be alone while performing the activity and engages in challenging behavior to gain the attention of others.

### **How do I implement embedding as an intervention strategy?**

Step 1: Identify the target activity. Identify the activity the child is trying to escape or avoid by engaging in challenging behavior when it's performance is requested. In the example above, Sue screams in an attempt to avoid picking things up off the floor when requested. Her behavior is an attempt to escape or avoid clean-up time.

In another example, Jessie doesn't want to set the table by herself. When she is asked to put out the place settings she may ignore repeated requests, or she may yell and swear at the adult making the request, and then run out of the room. Jessie's behavior is an attempt to get her parents attention while she is engaging in an independent task.

Step 2: Identify several activities that the child enjoys. Identify topics of conversation and types of interaction (e.g., sing alongs, guessing games, telling stories) which the child enjoys. These interactions are those in which the child laughs, smiles, uses animated voice, gestures and follows the adult to maintain the interaction. Mary, the classroom assistant, knows that Sue enjoys talking about her puppy, her collection of

stuffed animals, her best friend, and ideas she has for her next art project. Jessie has a favorite cassette tape with songs about animals, the words are often funny and make her laugh. She enjoys having one of her parents sing along with her. Jessie also enjoys talking with her parents about her day at school, her favorite TV show, her horse riding lessons and her friends.

Step 3 : Get the child involved in an activity she/he enjoys. Involve the child in the activities and interactions that were identified in Step 2. It is important to have several activities identified so they can be varied. The child may not want to talk about the same topic or listen to the same cassette he/she enjoyed earlier in the day. However, a new conversation topic or a new cassette may be very interesting.

For example, just before class clean-up time, the staff at Sue's school initiate a conversation with Sue about her puppy (e.g. "Sue, did you take your puppy for a walk last night?"). The conversation continues by the staff and Sue talking about her puppy. In another example, a few minutes before it's time to set the table for dinner, Jessie's dad sets up the cassette player and begins playing Jessie's favorite cassette. He calls her in and they begin to sing along.

Step 4: Present the request for the target behavior. Present the target request identified in Step 1. You will remember that this is the task the child often engages in challenging behavior in order to escape or avoid. As the adult continues to engage the child in an enjoyable conversation or interaction, the adult periodically delivers a request for the child to perform the target activity (e.g. "pick up that paper").

In Sue's case, a few minutes before clean-up time, the school staff involve Sue in a conversation about her puppy. The staff member continues the conversation about the puppy and delivers the target request. It is important that the adult continue the conversation or interaction, and provide prompts for the child to continue their part in the interaction. An example of the interaction with Sue is as follows:

- Staff: "What did your puppy do last night?"  
Sue: "We went for a walk and I had her on her leash and she pulled and pulled and tried to get a bird. But I didn't let her get it."  
Staff: "Wow! Where did you go for your walk? Pick up that doll Sue."  
Sue: "We went to the park by my house. And we walked around the lake...",  
Sue picks up the doll and puts it in the crib as she is talking.

- Staff: "Who went for the walk with you and your puppy? Put that paper in the bin."  
Sue: "My mom and dad and my brother went with us. And we saw some geese...", Sue puts the paper in the bin as she answers the question.  
Staff: "Your whole family went for the walk. Sue, put that crayon away."

Jessie's parents set up the cassette player in the eating area and involve Jessie in listening to the cassette with animal songs a few minutes before it's time to set the table for dinner. When Jessie is listening and singing along with the cassette her parents begin interjecting requests for Jessie to set the table. For example:

- Jessie: Singing  
Mom: "Jessie, put the dishes out for dinner." Jessie complies while she continues singing.  
Jessie: "This is my favorite song." Jessie sings along with the cassette.  
Mom: "I'll sing along with you. Here, put out the silverware." Jessie complies.  
Jessie: "I know the words to this whole song, wanna hear?"  
Mom: "I'd love to hear. Here are the napkins for the table."  
Jessie: Singing  
Mom: "What's the name of this song? We need salt and pepper on the table."  
Jessie: "It's called The Kangaroo Hop," Jessie gets the seasonings for the table.

### **How do I keep track of the child's progress**

Determine pre-embedding performance. In order to know if the embedding strategy is working you need to know how many times the child will perform the requested task before the embedding procedure is implemented. This is done by collecting information on the child's performance of the requested target activity.

A decision needs to be made as to when the child will be observed and information gathered regarding the child's performance. The number of days per week the child will be observed is identified as well as the number of opportunities during each observation. For example, the staff at Sue's school decided that information would be gathered over a period of three consecutive days for ten opportunities per day, five opportunities at 10:20 and five opportunities at 12:40.

Figure 1 illustrates a sample form for collecting this information. The child is observed for several days during the time the target activity is requested. For example, information is gathered regarding specific requests made to the child and whether the child complied with or refused to complete the requested activity. The column headed "Embedding Procedure Used" is left blank during the pre-embedding stage, it will be used when performance information is gathered once the embedding strategy is implemented.

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Insert Fig 1 about here  
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Figure 2a shows a sample of the information gathered at Sue's school before the embedding strategy was implemented. The staff watched Sue for three days during the pre-snack clean up at 10:20 a.m. and during the end of school clean up at 12:40 p.m. (two observations daily). They entered the date and time of observation in the left column. The second column, headed "Embedding Procedure Used" is left blank during the time prior to implementing the strategy. The third column, "Requests Made," lists the specific requests the staff made to Sue. For example, "Sue put the doll away," or the instruction to the whole class that "it's clean up time" would be included in this column. The column headed "Complied" is marked with a plus sign (i.e., +) by the staff when Sue complies with the request and performs the activity which has been requested. It is marked with a minus sign (i.e., -) when Sue refuses to comply with the request. In the "Comments" column, the percentage of requests that the child complied to is calculated. This column can also be used for the staff to place their initials indicating who watched Sue during each session. The staff also recorded any observations they felt were relevant. Examples of relevant observations include what Sue was doing at the time, challenging behaviors exhibited by Sue in response to the request, and things going on in the environment around Sue.

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Insert Fig 2a about here  
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To determine an overall estimate of how often Sue complied with the request to clean up, a percentage was calculated each day. The "Requests Made" and "Complied" columns are each totalled. The percent of Requests to which Sue complied is

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calculated by dividing the Total Complied figure by the Total Request figure and multiplying this figure by 100. This percentage will be used to measure any change in Sue's performance of requests to help clean up once the embedding strategy is implemented. It is best to calculate and record the percentage of compliance on a daily basis, this way any changes in the child's performance can be identified promptly.

Some of the pre-embedding information gathered for Jessie is shown in Figure 3a. Jessie's parents recorded information regarding how Jessie responded to their requests on Tuesdays and Fridays over a two week period prior to the implementation of the embedding strategy. They collected information on 10 opportunities each day. This information will later be used to summarize the child's change in target activity performance over time.

Set the criteria for success and set future goals. Deciding what the child should achieve with the embedding procedure is necessary to monitor the success of the procedure. For example the goal may be "Sue will comply with 70% of the requests made. She will maintain this level of compliance for one week before the embedding procedure is faded."

### **How do I know if the program is working?**

To assess how well the embedding procedure is working with a particular child it is necessary to periodically gather information about the child's performance while implementing the strategy. The information is gathered on the same form used for gathering pre-embedding performance information. The column headed "Embedding Procedure Used" is now also filled in. The information gathered is then compared to the performance recorded prior to implementing embedding. An increase in the percentage of compliance indicates the embedding procedure is successful.

Figure 2b shows a sample of the information collected by the staff at Sue's school after the embedding procedure was implemented. You may remember that the staff at Sue's school decided information would be gathered over a period of three consecutive days for ten opportunities per day, five opportunities at 10:20 and five opportunities at 12:40. The same schedule will be followed to monitor Sue's performance now that the embedding procedure has been initiated. The staff decided

to collect the information every second week. Sue's percentage of compliance to requests was calculated daily.

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Insert Fig 2b about here  
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Showing Sue's information on a graph will make it easier to see changes in Sue's performance over time. We will first summarize the information from the individual pre-embedding and embedding progress sheets, this is shown in the top half of Figure 4. Next we will take this summarized information and plot it onto a graph. Changes in target activity performance (e.g., picking up) are easier to see when the information is presented on a graph. When charting summary information onto a graph the vertical line represents the percentage of compliance to requests (i.e., 0%, 10%, 20%, etc.) while the horizontal line shows the dates that information was gathered about the child. A graph showing Sue's performance for pre-intervention and during the embedding procedure is shown in the bottom half of Figure 4. We can see that Sue's compliance to specific requests to help clean up has increased to between 70 and 90% using the embedding procedure. As the staff continue to check Sue's performance during embedding, they will graph new data onto the chart.

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Insert Fig 4 about here  
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Figure 3b depicts information gathered by Jessie's parents once the embedding procedure was implemented. You may recall that Jessie's parents recorded information regarding how Jessie responded to their requests on Tuesdays and Fridays over a two week period for 10 opportunities per day. The same schedule will be used to monitor Jessie's target behavior performance now that the embedding procedure has been implemented. A summary of Jessie's pre-embedding performance and performance during the embedding procedure is shown in the top half of Figure 5. A graph showing Jessie's target activity performance for pre-embedding and during the embedding procedure is shown in the bottom half of figure 5. We can see that Jessie's compliance to set the table has increased to between 80% and 100% since the embedding procedure was implemented.

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Insert Fig 3b about here  
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Insert Fig 5 about here  
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### **Additional considerations:**

It is important that there is a history of the child performing the target behavior. If the child has never been observed performing the requested target behavior, we cannot be sure whether the child understands the request.

Embedding requires one to one attention with the child by engaging the child in an interaction which is enjoyable to the child and maintaining that interaction. This procedure is best reserved for those activities in which the adult might be able to spend the extra time one to one with the child. In Sue's class, the staff always walk around the room and talk with children during clean up time. Therefore, walking with Sue and engaging her or other children in the setting is natural and would be a good match. In Jessie's case, it is natural for her parents to engage in conversations with Jessie about her day and her interests, and to sometimes join her in sing alongs. Her parents are simply picking the time and place to engage in these conversations that will facilitate Jessie's participation in the target activity of setting the table.

### **How do I troubleshoot problems that might arise?**

Problem 1: Child does not get involved in the fun activity. The activity may not be one the child really enjoys. You need to try other options. For example, Jessie's mom bought Jessie a new cassette tape hoping it would be another activity that Jessie would enjoy. Jessie never took the cassette out of the box to listen to it. The cassette was not one Jessie was interested in so she did not choose to listen to it. Jessie's mom returned the cassette to the store and continued to use the tapes that Jessie enjoyed. The graphs in Figure 6 show how Jessie and Sue's performance would look if the fun activity was not one the child enjoyed.

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Insert Fig 6 about here  
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Problem 2: Child engages in fun activity but stops when the target behavior request is made. The fun activity does not have a strong enough reinforcing quality. The child may enjoy the activity enough to get involved in it "for free", but when a request is made to perform an unpreferred activity, the fun activity loses its power. Reassess fun activities, and try other options.

For example, Sue's teacher began talking with Sue about an upcoming class field trip to the museum. She then requested Sue pick up a toy and put it on the toy shelf. Sue refused and ran away from the teacher, pulling papers off the table as she ran past. The topic of conversation was not interesting enough for Sue to want to continue the interaction through the undesired chore. However, when Sue's teacher asked her about what she did with her best friend yesterday prior to asking Sue to clean up, Sue complied to the request and continued to discuss the games she played with her friend.

Problem 3: The fun activity use to work, but now the child will not engage in the fun activity. This may be because the child knows that he/she will be asked to do the unpreferred task once the fun activity has begun. The child has paired the fun activity with the unpreferred task and the activity has now taken on the negative feelings associated with that task. This situation can be avoided by making sure the fun activity occurs at times during the day in addition to when the target activity is being requested.

For example, one night Jessie's dad set up the cassette player in the eating area and called Jessie to listen to her animal songs cassette. Jessie responded by yelling at him "No! I won't come. You just want me to set the table, you don't really want to listen to my music with me!" It would be important for Jessie's parents to set up the cassette in other locations at other times during the day (e.g., in the car while they are travelling, in the bathroom while Jessie is bathing, in Jessie's room while she is playing). It is also important to vary the activity that is used to embed the request for target behavior.



Figure 2a. Sue's Pre-Embedding Performance

### Compliance to Embedded Requests

Child's Name: *Sue (Pre-embedding baseline)*

Date Time	Embedding Procedure Used <sup>1</sup>	Request Made	Compliance + or -	Comments <sup>2</sup>
3/14 10:20		It's cleanup time	-	(ni) General comment to class
10:20		Put crayons away	+	(ni) Others are picking up
10:20		Pick up book	-	(ni) Ignore
10:20		Pick up book	-	(ni) "NO!"
10:20		Pick up book	-	(ni) Ran away
12:40		It's cleanup time	-	(s) To class
12:40		Put the doll away	-	(s) "No!" Dropped doll on floor
12:40		Pick up paper	-	(s) Ignore
12:40		Pick up paper	+	(s)
12:40		Put Legos away	-	(ni) $(\frac{2}{10}) \times 100 = 20\%$
3/15 10:20		It's cleanup time	+	(ni) Helped pick up a few blocks
10:20		Put truck away	-	(ni)
10:20		Put doll away	-	(ni) Ignore
10:20			-	(ni) Yelled
10:20			-	(ni) Ran away
12:40		It's cleanup time	-	(s)
12:40		Pick up paper	-	(s)
12:40		Pick up doll	+	(s)
12:40		Put crayons away	-	(s) "No"
12:40		Pick up blocks	-	(s) $(\frac{3}{10}) \times 100 = 30\%$

<sup>1</sup> Omit this column for baseline information.

<sup>2</sup> Calculate daily percent of compliance in this column.

$$\frac{\text{Total + compliances for day}}{\text{Total requests for day}} \times 100 = \text{_____} \% \text{ compliance}$$

Figure 2b. Sue's Performance During Embedding

Child's Name: Sue Compliance to Embedded Requests

Date Time	Embedding Procedure Used <sup>1</sup>	Request Made	Compliance + or -	Comments <sup>2</sup>
4/6 10:20	Asked Sue about puppy	It's cleanup time	+	(ny)
10:20	Asked Sue about puppy	Put paper in bin	+	(ny)
10:20	Asked Sue about puppy	Put crayons in box	+	(ny)
10:20	Where does she sleep? (puppy)	Put paper on desk	-	(ny) ignore
10:20	Where does she sleep? (puppy)	Put paper on desk	+	(ny)
12:40	Talk about upcoming art project	It's cleanup time	-	(wm) ignore
12:40	Talk about upcoming art project	Put paper in bin	-	(wm) ignore
12:40	Colors she'll use	Put paper in bin	+	(wm)
12:40	Colors she'll use	Pick up doll	+	(wm)
12:40	Glitter colors she wants	Put truck on shelf	+	(wm) $(\frac{7}{10}) \times 100 = 70\%$
4/7 10:20	Talk about Sue's stuffed animals	It's cleanup time	-	(cs)
10:20	Talk about Sue's stuffed animals	Put toy on shelf	+	(cs)
10:20	Talk about Sue's stuffed animals	Put paper into bin	+	(cs)
10:20	Talk about Sue's stuffed animals	Put blocks in box	+	(cs)
10:20	Talk about Sue's stuffed animals	Put doll in cradle	+	(cs)
12:40	Talk about Sue's puppy	It's cleanup time	+	(ni)
12:40	Talk about Sue's puppy	Put shovel in sandbox	+	(ni)
12:40	Talk about Sue's puppy	Put hoops in shed	+	(ni)
12:40	Talk about Sue's puppy	Put blocks in box	+	(ni)
12:40	Talk about Sue's puppy	Put ball in box	+	(ni) $(\frac{9}{10}) \times 100 = 90\%$

<sup>1</sup> Omit this column for baseline information.

<sup>2</sup> Calculate daily percent of compliance in this column.

$$\frac{\text{Total + compliances for day}}{\text{Total requests for day}} \times 100 = \text{_____ \% compliance}$$

Figure 3. Jessie's Pre-Embedding Performance

Child's Name: *Jessie*

Date Time	Embedding Procedure Used <sup>1</sup>	Request Made	Compliance + or -	Comments <sup>2</sup>
<del>7/2 8:00a</del>	<del></del>	<del>Put out the cold cereal</del>	<del>+</del>	
<del>8:00a</del>	<del></del>	<del>Put out bowls</del>	<del>-</del>	<del>"No! You help me."</del>
<del>8:00a</del>	<del></del>	<del>Put out bowls</del>	<del>-</del>	<del>Swore at me</del>
<del>8:00a</del>	<del></del>	<del>Put out bowls</del>	<del>-</del>	<del>"Daddy will help me"</del>
<del>8:00a</del>	<del></del>	<del>Put out bowls</del>	<del>-</del>	<del>Ran out of room</del>
<del>6:30p</del>	<del></del>	<del>Put out the plates</del>	<del>-</del>	
<del>6:30p</del>	<del></del>	<del>Put out the plates</del>	<del>-</del>	
<del>6:30p</del>	<del></del>	<del>Put out the silverware</del>	<del>+</del>	
<del>6:30p</del>	<del></del>	<del>Put out glasses</del>	<del>-</del>	
<del>6:30p</del>	<del></del>	<del>Put out catsup</del>	<del>-</del>	<del><math>(\frac{2}{10}) \times 100 = 20\%</math></del>
<del>7/5 7:30a</del>	<del></del>	<del>Put bread &amp; jam on table</del>	<del>-</del>	<del>Ignore</del>
<del>7:30a</del>	<del></del>	<del>Put spoons on table</del>	<del>-</del>	<del>"I don't want to do it alone"</del>
<del>7:30a</del>	<del></del>	<del>Put spoons on table</del>	<del>-</del>	<del>"No!"</del>
<del>7:30a</del>	<del></del>	<del>Put spoons on table</del>	<del>+</del>	
<del>7:30a</del>	<del></del>	<del>Put out bowls</del>	<del>-</del>	<del>"You get them for me"</del>
<del>5:45p</del>	<del></del>	<del>Put out placemats</del>	<del>+</del>	
<del>5:45p</del>	<del></del>	<del>Put out glasses</del>	<del>-</del>	<del>"I'm tired, I can get them"</del>
<del>5:45p</del>	<del></del>	<del>Get the milk</del>	<del>+</del>	
<del>5:45p</del>	<del></del>	<del>Put out silverware</del>	<del>-</del>	<del>"I want Mom to help me"</del>
<del>5:45p</del>	<del></del>	<del>Put out silverware</del>	<del>-</del>	<del><math>(\frac{3}{10}) \times 100 = 30\%</math></del>

<sup>1</sup> Omit this column for baseline information.

<sup>2</sup> Calculate daily percent of compliance in this column.

$$\frac{\text{Total + compliances for day}}{\text{Total requests for day}} \times 100 = \text{ \% compliance}$$

Figure 3b. Jessie's Performance During Embedding  
 Child's Name: Jessie Compliance to Embedded Requests

Date Time	Embedding Procedure Used <sup>1</sup>	Request Made	Compliance + or -	Comments <sup>2</sup>
8/21 7:30a	Talking about TV show	Put out the placemats	+	
7:30a	Talking about TV show	Put out bowls	+	
7:30a	Talking about TV show	Get sugar for table	+	
7:30a	Talking about TV show	Put out milk	+	
7:30a	Talking about TV show	Put out the placemats	+	
6:00p	Listening to animal song cassette	Put out the silverware	+	
6:00p	Listening to animal song cassette	Put out glasses	+	
6:00p	Listening to animal song cassette	Get milk for table	+	
6:00p	Listening to animal song cassette	Carry plates to table	+	
6:00p	Listening to animal song cassette	Get napkins	+	$(\frac{10}{10}) \times 100 = 100\%$
8/24 8:15a	Listen to cassette. Jessie is singing.	Put out the placemats	+	
8:15a	Listen to cassette. Jessie is singing.	Put out glasses	+	
8:15a	Listen to cassette. Jessie is singing.	Get spoons and knives	-	Ignore
8:15a	Listen to cassette. Jessie is singing.	Get spoons and knives	+	
8:15a	Listen to cassette. Jessie is singing.	Put out jam and butter	+	
8:15a	Listen to cassette. Jessie is singing.	Put out cereal	+	
6:30p	Talk about tomorrow's horse riding lessons	Put out the placemats	+	
6:30p	Talk about tomorrow's horse riding lessons	Put out glasses	-	Ignore
6:30p	Talk about tomorrow's horse riding lessons	Put out glasses	+	
6:30p	Talk about tomorrow's horse riding lessons	Put out plates	+	$(\frac{8}{10}) \times 100 = 80\%$

	<u>Date</u>	<u>% Compliance to Requests</u>
Pre-embedding	3/14	20%
	3/15	30%
	3/16	10%
-----		
Embedding	4/6	70%
	4/7	90%
	4/8	80%

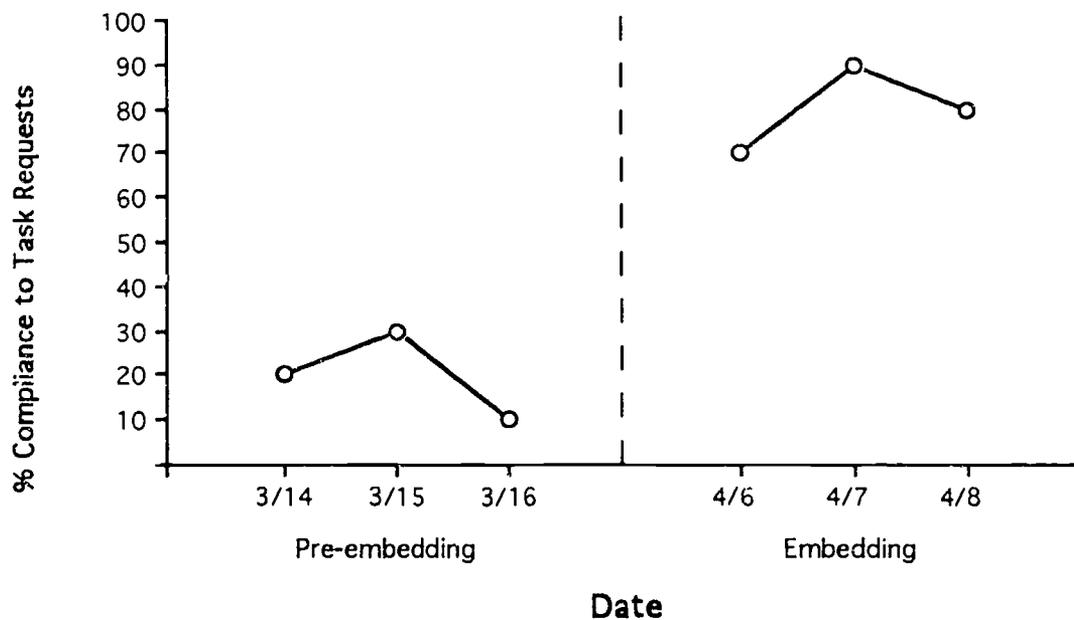


Figure 4. Summary of Sue's Performance

	<u>Date</u>	<u>% Compliance to Requests</u>
Pre-embedding	7/2	20%
	7/5	30%
	7/9	20%
	7/12	10%
-----		
Embedding	8/21	100%
	8/24	80%
	8/28	80%
	8/31	90%

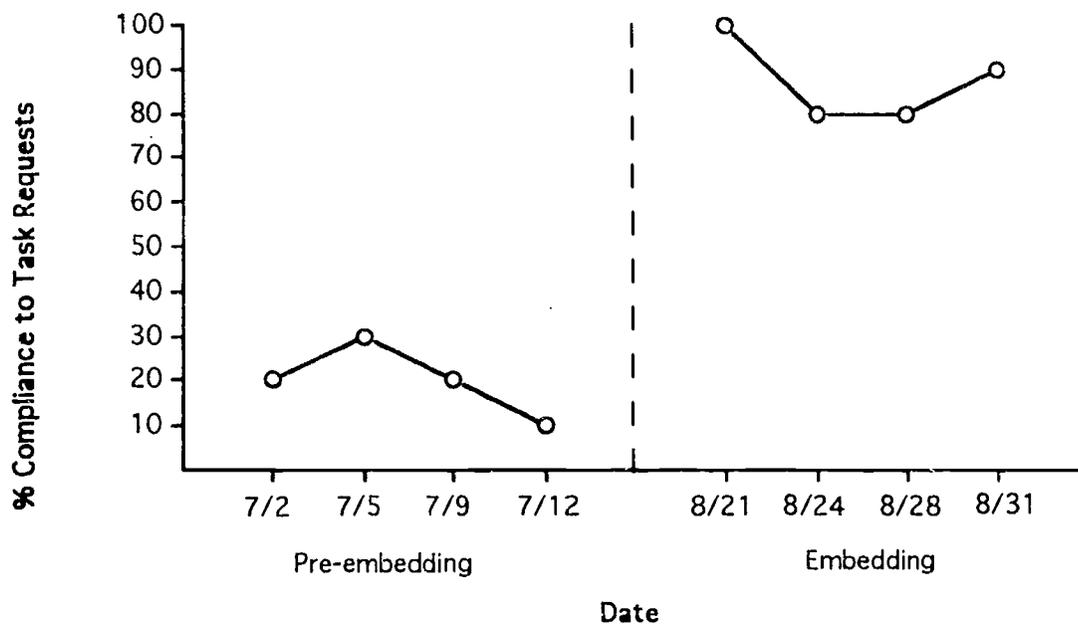


Figure 5. Summary of Jessie's Performance

### Sue's Performance

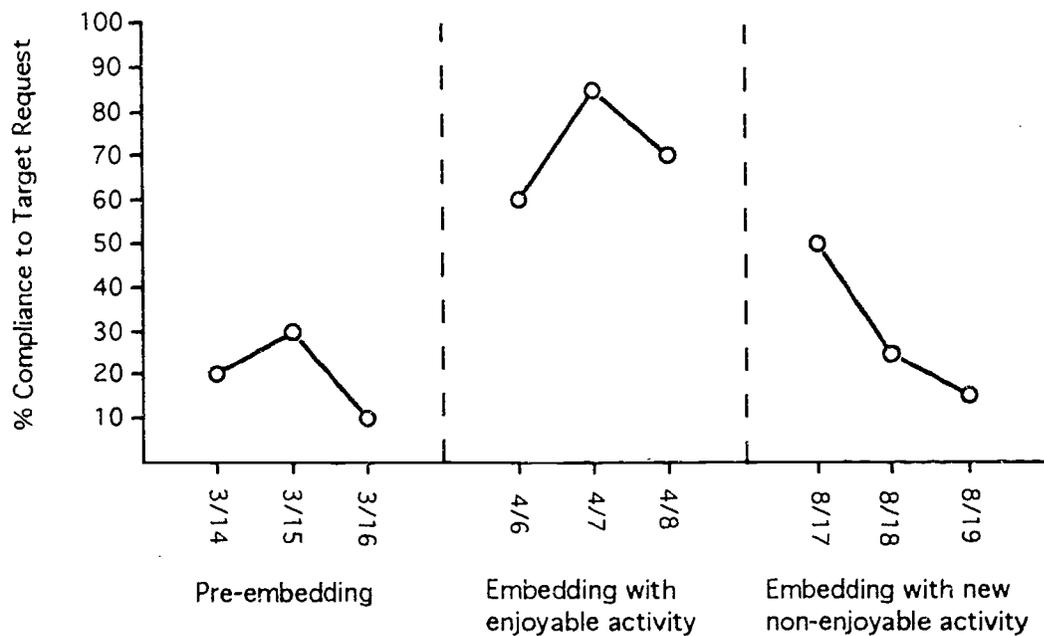
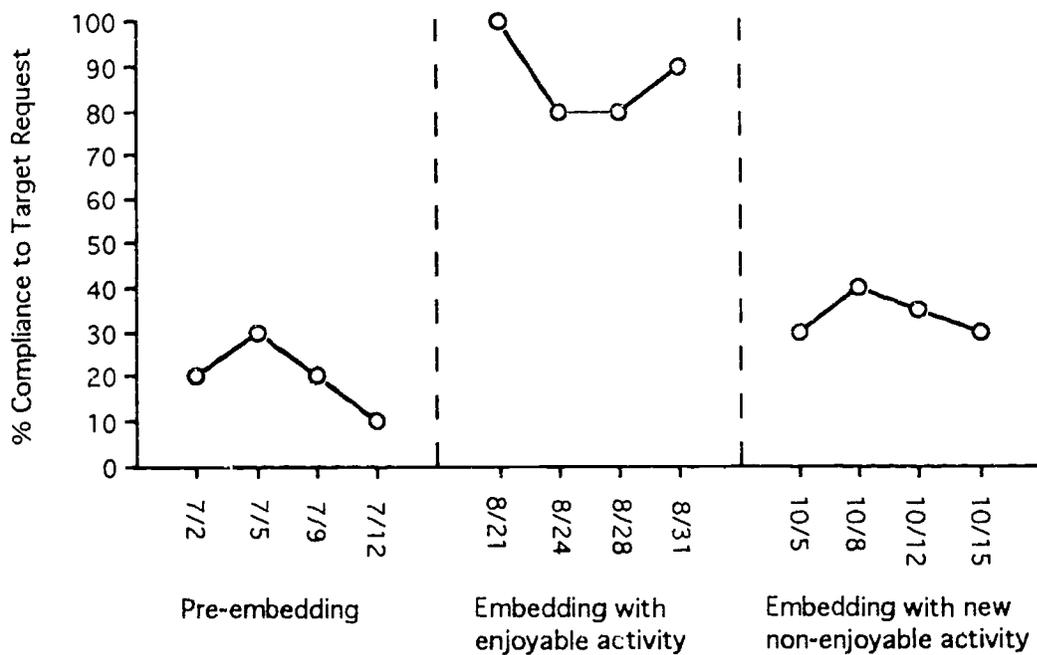


Figure b.  
Performance of child when Embedding is Working  
and When Embedding is not Working



## The Replacement of Challenging Behaviors With Communicative Alternatives

### What is meant by challenging behaviors?

Challenging behaviors result in self-injury, injury to others, cause damage to the physical environment and/or interfere with the acquisition of new skills, and/or socially isolate the learner (Doss & Reichle, 1991).

### What is meant by the form and function of a challenging behavior?

There are a variety of forms that challenging behaviors may take. For example, a learner may yell, scream, spit, hit or pinch either him/her self and or other individuals. The learner may engage in a single form of challenging behavior per episode (e.g., just hitting) or a sequence or group of different challenging behaviors (e.g., hit, yell, spit and pinch). In addition to considering the form(s) of the challenging behavior, one must also consider the function served by the production of the challenging behavior.

The functions that challenging behaviors serve for learners can be categorized as those that are emitted to avoid/escape undesired outcomes and those that are emitted to gain access to desired outcomes. For example, Carlos throws his plate, spoon and cup, each time he is requested to eat green vegetables (a nonpreferred item). The form of Carlos' challenging behavior is throwing objects (e.g., cup, spoon, plate) and the function that it serves is to avoid the presentation of nonpreferred foods. Another learner Kristin begins to tantrum each time her teacher begins to work with other students in the class. Kristin's challenging behavior (tantrumming) serves the purpose of gaining access to a desired outcome, her teacher's attention. Within these two general functions (avoid/escape and gain access), challenging behaviors can be further categorized as socially motivated or nonsocially motivated.

### What is a socially motivated challenging behavior?

Challenging behaviors that require the mediation of others in the environment are referred to as **socially motivated** challenging behaviors. For example, Ben, who is unable to communicate the desire to join his friends at recess, engages in self-injurious behavior (i.e., slaps himself in the face) until his teacher wheels him out to the play ground. Another learner, Mary, throws materials around the room in order to indicate the desire to terminate an activity. John on the other hand, becomes

aggressive (e.g., hits, bites spits) at the sight of an undesirable object or activity (e.g., a nonpreferred food item). In the preceding examples, each learner was engaging in "socially motivated" challenging behaviors. A learner who engages in socially motivated challenging behavior may do so in order to gain access to attention, objects or activities, or to escape or avoid nonpreferred situations (attention, objects, events or activities).

### **What is a nonsocially motivated challenging behavior?**

Learners who engage in nonsocially motivated challenging behaviors do not require mediation from others in the environment. Their behaviors may serve the function of obtaining or escaping internal stimulation. For example, a learner may bang his head in order to escape the pain of an earache. The same learner may enjoy the feeling of his/her body in motion, and therefore rocks his/her body back and forth. Another learner may enjoy loud noises, and as a result bangs objects. None of these behaviors require any interaction with others in his or her environment in order to maintain the probability that they will occur in the future. It is important to note, that some learners may not require a communicative alternative. Consider Tommy, who enjoys rocking his body back and forth. Tommy may benefit from being provided with opportunities to play on a swing. He could be taught that when he would like to experience this rocking sensation he should go to the swing, instead of rocking his body back and forth. Sandra, who bangs her materials because she enjoys loud noises, might benefit from learning how to play loud musical instruments. Teaching her to go to her musical instruments when she desires loud stimulation, might prevent her from banging her other play materials.

### **Can a nonsocially motivated challenging behavior become socially motivated?**

Nonsocially motivated behaviors may become socially motivated over time. Consider a learner who bangs his head in order to alleviate the pain of an earache. During the first few occasions when his mother noticed him banging his head, she immediately picked him up. Subsequently, she rubbed his head soothingly and offered him his favorite toy. Eventually the child's mother became concerned and began to examine her child. She noticed that there was drainage from the ear and

immediately brought him to the doctor. The doctor prescribed medication for an ear infection and within a week, the infection was gone. Although the child no longer had an earache, he would still occasionally bang his head, but only in the presence of his mother. His mother continued to respond by picking him up and offering him his favorite toy. In this situation, it appears that the child has learned that engaging in head-banging results not only in the alleviation of an earache, but also in the procurement of attention and preferred items. In this example, a behavior that was once nonsocially motivated, may have become socially motivated.

### **Does the learner's engagement in challenging behavior effect the way interventionists interact with him or her?**

When a learner engages in challenging behaviors it often effects the way interventionists interact with him or her (Taylor & Carr, 1993). The following examples illustrate how three learners; one who is attention motivated, one attention avoidance motivated and one escape motivated each effect the way their interventionists interact with them.

#### Example 1: Attention Motivated

George is a young child who engages in challenging behavior (i.e., acts aggressively towards peers) in order to obtain his teacher's attention. As a result, his teacher's instructional strategies have changed considerably since George became a member of her class. During morning circle, she always sits next to George and is sure to call on him at least four times during the 15 minute activity. When assigning play groups to classroom staff, George is always assigned to her group, and this group purposefully has less children so that she can provide George with a great deal of attention. When the playgroup rotates from center to center within the classroom, his teacher spends most of the time interacting with George. The time that she does spend with the other children is often interrupted while she diverts her attention to George (e.g., praises his work, comments on his good behavior, etc.). It is apparent, that George's teacher has adapted her instructional style by providing George with an abundance of attention in order to decrease the likelihood that he will engage in challenging behavior.

Example 2: Attention avoidance motivated

Another student Bobby, tends to engage in challenging behavior in order to avoid attention (e.g., interventionists interacting with him). He prefers to play by himself and begins to flail his arms and run away when others (both peers and interventionists) approach him. Bobby's challenging behaviors have effected the way his teacher and classroom assistant interact with him. Generally, the teacher and the assistant move around the classroom, encouraging students to play together, sharing materials, and role playing. However, neither the assistant nor the teacher ever approach Bobby. If he is playing quietly, they will walk past him and begin to interact with other children in the class. It is clear that the classroom teacher and assistant purposefully avoid interacting with Bobby in order to decrease the likelihood that he will engage in challenging behaviors.

Example 3: Escape motivated

Allison is a young girl who often tantrums when a task becomes too difficult. For example, she will often begin to tantrum during art if she is not able to open the glue container or use her scissors correctly. As a result, her teacher tends to have Allison engage in activities that she is sure she can complete with 100% accuracy. Therefore, while the rest of the class is making decorative holiday projects that entail use of glue, scissors and a variety of other craft materials, the teacher requests that Allison engage in a coloring activity, requiring only the use of crayons and paper. It clear that Allison's teacher avoids certain instructional activities in order to decrease the likelihood that Allison will engage in challenging behaviors.

**How do I go about replacing a challenging behavior with a communicative alternative?**

There are two types of interventions procedures; those designed to honor the function of the challenging behavior by teaching a communicative replacement, and those that are designed to enhance self regulatory skills. When an interventionist chooses to replace the challenging behavior with a communicative alternative, there must be general agreement that the function of the behavior was acceptable, but the form used to achieve the outcome is unacceptable. (See Functional Assessment

Module). For example, if taught to request joining his friends at recess, Ben would no longer need to engage in self-injurious behavior to obtain access to a desired activity. If Mary had a means to request a break from an ongoing activity, she may not feel the need to throw her materials around the room to achieve escape. Providing John with a way to tell others that he does not want to accept a particular item or engage in a particular activity, might result in a decrease in his escape motivated aggression. Some learners who engage in nonsocially motivated challenging behaviors could also be taught functional communicative alternatives. For example, if given a means of requesting food, a learner may refrain from stealing it. It is essential to determine the function of the challenging behavior, before attempting to teach a learner an efficient communicative replacement. If the interventionist chooses to teach a communicative replacement, they must insure that the communicative replacement serves the same function of as the challenging behavior.

### **What is Functional Equivalency and why is it important?**

A communicative alternative to challenging behavior must serve the same function as the challenging behavior. When two responses (e.g., the challenging behavior and the communicative replacement) serve the same function, they are said to be "functionally equivalent". In serving the same function, both responses must occur within the same contexts and result in the same consequences. Consider, for example, a learner who bangs his head when presented with nonpreferred food items (e.g., vegetables). In response to the learner's challenging behavior, there may be a history of individuals immediately removing the nonpreferred food item from the learner's environment. In order to successfully replace this challenging behavior with a communicative alternative, the learner should have access to the new response (e.g., raising his hand while turning his head) when presented with nonpreferred food items. Additionally, the learner should be prompted to engage in the response in order to avoid the nonpreferred item prior to the emission of challenging behavior. Finally, upon emitting the new communicative response, individuals should deliver the same consequences (e.g., immediately remove the nonpreferred food items) that were delivered when the learner engaged in the challenging behavior.

### **What is Response Efficiency and why is it important?**

It is not only crucial for a communicative replacement to be functionally equivalent to the challenging behavior, it must also be efficient from the learner's perspective. For example, a learner could remove a communication wallet from his or her pocket, and turn the pages until she or he locates the symbol "Please stop". This response may be functionally equivalent to "hitting others" that may be currently used to escape or avoid undesired items or activities. However, it may be somewhat inefficient in terms of effort exerted by the learner and the immediacy with which the item will be removed. The concept of response efficiency can be described in terms of four components; response effort, rate of reinforcement, quality of reinforcement and immediacy of reinforcement.

a. Response effort

Response effort refers to the cognitive or physical effort required to encode and produce a response. Response effort was briefly discussed in the example of a learner removing his/her wallet from his/her pocket, flipping through the pages and locating the symbol of "please stop", in order to reject an object or event. If a learner hits the person presenting the undesired item or event, it is possible that they will find this behavior extremely less effortful than engaging in the chain of behaviors just described.

Response effort is also influenced by the familiarity and fluency with which a behavior is emitted. For example, assume that an individual rarely travels downtown. On occasions when this trip has occurred, the individual has taken the same path that takes 45 minutes. Recently, the individual has been told that a new route could save 20 minutes. However, to use the route required following a way that may result in getting lost. In this example, the cognitive effort of following the map may be so great to result in the individual's resistance in using the new route.

b. Immediacy of reinforcement

Immediacy of reinforcement refers to how quickly the learner is reinforced upon engaging in a particular behavior. For example, Tom is a learner who does not

like attention (e.g., social interactions) from adults in his environment. He often engages in self-injurious behaviors (i.e., eye gauging) in order to escape attention. Currently, as soon as Tom raises his hands to his eyes, adults in his environment immediately withdraw their attention. For example, they leave the area or begin to interact with another learner. When providing Tom with a functionally equivalent communicative behavior (e.g., point to a card with "please leave me alone" written on it), it will be extremely important that he be reinforced (e.g., attention withdrawn) within the same amount of time that he was when he engaged in the challenging behavior. Consider our earlier "squeaky wheel" example. Crying may result in an adult immediately rushing to a learner to provide comfort. On the other hand, if the learner politely asks "Could you please come here?", the interventionist may say "I'll be there pretty soon". Given these two sets of circumstances, it is unlikely that the communicative alternative will replace a repertoire of challenging behavior.

c. Rate of reinforcement

The rate of reinforcement refers to the frequency with which reinforcement is provided to the learner after she or he engages in a particular behavior. The rate of reinforcement is associated with both the challenging behavior and the communicative alternative. For example, upon banging his head on the floor in order to gain attention, a number of individuals in Michael's environment provide him with attention. Each of the individuals interact with him, on a number of occasions, asking him questions and speaking to him in a soothing tone of voice. In this example, Michael is receiving a high rate of reinforcement for emitting a challenging behavior (e.g., banging his head on the floor). This rate of reinforcement must be considered when providing Michael with a communicative alternative (e.g., signing "Please play with me"). It is likely that Michael's communicative alternative will not be efficient from his perspective, if he emits the behavior and only one person provides him with attention, on only one occasion.

d. Quality of reinforcement

The quality of reinforcer refers to how preferred a consequating event appears to be. For example, a learner may prefer a certain brand of cookies over another brand, or one type of snack food over another. Let's consider Jenny for example. Her favorite snack food is Cheeto's Cheese Curls™. Often times Jenny will engage in challenging behaviors (e.g., yell, cry and stamp her feet) in order to gain access to this snack. If Jenny is to be successful in her use of a functionally equivalent communicative replacement (e.g., point to a symbol of a snack package) it will be important that she be provided with this highly preferred snack item, immediately after producing the desired replacement. For example, if she points to the symbol of the snack package, and her mother offers her a cracker, it is likely that she will engage in her repertoire of challenging behaviors until she gains access to the more preferred snack item (e.g., Cheeto's Cheese Curls™).

Frequently the quality of reinforcement provided is congruent with the saying that the squeakiest wheel gets the oil. For example, a crying preschooler may receive 10-15 minutes of soothing rocking with his teacher contingent on emitting crying. On the other hand if he politely asks for attention "could you please come here", the most probable teacher response may be 20 seconds of brief acknowledgment. In this example, crying produces a qualitatively superior consequence from the learner's perspective.

As previously stated, it is extremely important for the interventionist to have an understanding of the four components of response efficiency. However, meeting the "requirements" of each one of these components may prove to be quite difficult when teaching a learner a communicative alternative. For example, an interventionist may feel that he can ensure only that the communicative alternative requires the same amount of effort than the challenging behavior (e.g., replaces tantrumming behavior emitted to gain assistance with a sign for "help"), but can not ensure that all classroom staff will respond with the same rate or quality of reinforcement. Unfortunately, this may be insufficient to establish and maintain the communicative alternative. It is

important that the interventionist consider as many of the preceding efficiency factors as possible in designing an intervention strategy that emphasizes communicative alternatives to challenging behavior.

**How do I determine the most efficient mode of communication to be used by the learner as a replacement for his or her challenging behavior(s)?**

When replacing a challenging behavior with a communicative alternative the interventionist must consider the communicative mode in which the learner will emit the replacement response. There are three different modes of communication to consider: verbal, graphic and gestural.

Verbal Mode

Some learners who have the ability to produce verbal messages, fail to do so under certain conditions and instead engage in challenging behaviors. These individuals may therefore be taught to emit a verbal response in place of their challenging behavior(s). The communicative replacement selected by or for these learners, must be emitted in a clear and concise manner so that their communicative partner(s) can interpret the message. When identifying a verbal response to be used by the learner as a communicative alternative, it is important to consider the following:

- Imitative capability - Before selecting speech as the mode to express a communicative replacement, it is important to consider whether or not the individual can be readily prompted to produce a spoken utterance. Learners who are capable of imitating spoken words can be more easily prompted than learners who do not have any existing imitative skills. Another method of instruction for learners who are not verbally imitative is *response shaping*. This entails the interventionist reinforcing successfully better approximations of the target word. However, this method is often tedious and time consuming.
- Intelligibility - It is important for the learner's communicative message to be intelligible to the listeners in his or her environment. Sometimes a learner's verbalizations are clearly understood by familiar listeners, however a novel person may have a hard time interpreting the learner's message.

- Explicitness - Some learners who are just beginning to develop verbal communicative repertoires may not have the ability to create explicit messages. For example, a learner may request an adult to interact with her by saying "play" in an intelligible manner. However, more explicit requests such as "play dolls" or "play cards" may be more difficult for the learner to produce and hence less intelligible from the listener's perspective. This situation also may necessitate that some vocabulary words be represented via the graphic and/or gestural mode.

### Graphic Mode

Any type of graphic symbol may be used as a replacement for challenging behavior. The graphic symbol (written word, black and white line drawing, photograph) can be incorporated into a variety of communication displays (book, board, portable electronic communication device). When using nonelectronic communication displays (book, board, wallet) it is important for the communicative partners to be in close proximity to the learner so that they can see the symbol being selected by the learner. If the communicative partner is not always within close proximity, it is important for the learner to be taught a request for attention response (e.g., vocalize loudly, go to their partner and tap their shoulder, or activate a buzzer) in order for them to first gain their partner's attention and then emit the communicative response.

### Gestural Mode

Gestures may also be used to replace challenging behaviors. Natural gestures (e.g., turning one's head and raising one's hand in order to indicate displeasure), or a sign (e.g., the sign "stop" in American Sign Language) may be taught to learners as a more appropriate replacement for their challenging behavior(s).

One advantage of the gestural mode is that the gesture/sign can be seen at a distance, where in the graphic (low-tech mode) the communicative partner must be close enough to the learner's system to see the symbol. Other advantages of the gestural mode is that system is portable, there is no need for any external materials (e.g.,

locating the communication wallet, turning on the communication device) and the response can be emitted rather quickly.

### Additional Considerations Concerning Mode

New vocabulary, can be exclusively assigned to a particular mode (Mixed Mode) or a new vocabulary item can be taught using two or more different modes (Duplicated Mode):

#### Mixed Mode

When determining the communicative mode that would be most appropriate for a learner, one often finds that different modes would be appropriate in different situations. For example, a learner may emit the sign for "help" in the presence of his mother while getting dressed in the morning, however, when he is ordering a soft drink at a fast food restaurant he may point to a photo of a container of a particular brand of soda pop. Therefore, when teaching a learner a "mixed mode" communication system, some vocabulary items are represented by one particular mode and other vocabulary items are represented by a second or third mode.

#### Duplicated Mode

Other learners might benefit from a duplicated mode communication system. In this case the learner may be reinforced (i.e., responded to by communicative partners) in some environments for emitting a gesture and may be reinforced in other environments for pointing to a graphic representation of the same vocabulary item. Consider for example, a learner who at home pats his thigh in order to indicate the desire to play a game. His parents immediately respond to this gesture and begin to interact with the learner. This gesture however, when used at preschool may not result in his teacher responding in the same manner. This learner may benefit from a more intelligible response (e.g., point to a line drawn symbol that signifies "Come play with me") to be used with individuals who are not familiar with his gestures. However, because patting his thigh is an efficient and effective means of gaining his parents attention, it may not be necessary to eliminate or replace this response within the home setting .

### **How do I go about choosing a message that is both appropriate and efficient for the communicative replacement?**

When choosing a message to be used by the learner as a communicative replacement for challenging behavior, one should consider the following:

- Is the message socially acceptable?
- Is the message sufficiently explicit?
- Can the message be produced with speed required to hold listener's attention?
- Is the message intelligible from the listener's perspective?

### **How do I determine if the intervention is efficient from the interventionist's perspective?**

When selecting an intervention for an individual learner, it is important to consider the efficiency of the intervention from the interventionist's perspective. This is an important consideration because the amount of effort that is demanded by a particular intervention will have direct implications regarding the interventionist's ability and/or willingness to implement in an accurate and consistent manner. The following issues should be considered when designing an intervention so that it is deemed efficient from the interventionist's perspective.

A. Does implementing the program require a change in the interventionist's routine?

Some interventions may be easily manipulated so that they fit within an interventionist's daily routine. For example, some interventionists set aside a time for snack each day. If a learner in their program engaged in challenging behaviors in order to access edibles, it would be easy to incorporate a requesting program into this interventionist's routine. On the other hand, if a learner was engaging in challenging behavior in order to gain access to preferred toys, but the interventionist provided few opportunities for the learners to play with toys, implementing a requesting program would become

problematic in this environment. Therefore, it is important to first determine whether or not the interventionist is willing to make changes within their daily routine. If not it is important to develop an intervention program that can be incorporated within the interventionist's existing routine.

B. Does the intervention selected agree with the interventionist's teaching style?

When recommending an intervention for a learner who engages in challenging behaviors, it is important to ensure that the intervention agrees with the interventionist's teaching style. This will help to ensure that the intervention is implemented accurately and regularly. In order to determine whether or not an intervention matches the teaching style of the interventionist, it is important to consider the following:

1. Rigor of implementation

Some interventionists are comfortable implementing interventions that require a considerable amount of "rigor". Rigor being defined as the amount of effort required by the interventionist to systematically implement and monitor an intervention program. The amount of rigor inherent in each program may be determined by the following factors:

- number of times the program must be implemented each day
- extent to which the environment must be manipulated prior to implementation
- the extent to which implementation of the program must correspond to a specific set of procedures
- the extent to which consequences must be manipulated following implementation
- the extent to which learner responses must be documented

2. Arranging antecedents

A great many challenging behaviors may be diminished merely by arranging the learner's environment. For example, a learner may engage in escape motivated challenging behaviors when she is seated

within close proximity to a large number of peers. This behavior may be prevented if her interventionist ensured that she be seated at the end of a row or participate in activities with a small group of her peers. As a result, arranging antecedents, often entails a great deal of forethought. Therefore, it is extremely important to determine the extent to which an interventionist is willing to plan for upcoming activities and events.

### 3. Providing consequences

Many interventionists have a tendency to implement intervention procedures following the learner's engagement in challenging behavior. Interventions that take place after the challenging behavior has occurred are known as "**reactive**" intervention procedures. For example, if a learner throws objects the interventionist may "scold" him or require that he be "timed-out" from the ongoing activity. At times the use of reactive procedures may have resulted in successfully diminishing challenging behaviors.

"**Antecedent**" intervention procedures, on the other hand, are implemented prior to the learner's engagement in challenging behavior and therefore may differ considerably from those practiced by many interventionists. The antecedent procedures discussed in this module rely on replacing the challenging behavior with a more appropriate response. Once the appropriate response is emitted (independently or via the delivery of prompts) the response must be reinforced. For example, a learner who signs "Break" instead of throwing materials in order to terminate an activity will be more likely to continue to use the "Break" symbol if he or she is reinforced for its use (i.e., released from the activity).

Antecedent based intervention strategies have a number of advantages:

- They provide the interventionist with an opportunity to prompt a new and functional response between the provoking antecedents and the challenging behavior.

- The interventionist controls when a teaching opportunity occurs.
- The learner is able to acquire new skills that can be used in situations where challenging behavior might not occur.

When suggesting antecedent interventions, it is essential to determine the extent to which an interventionist is willing to honor the learner's communicative alternative. For example, some interventionists may not regularly permit learner's to express their preferences or allow them to engage or disengage in activities other than those that the interventionists deems appropriate. Consider a learner who tires of an activity after only a few moments of engagement. This may be in direct conflict with the interventionist's plan for the learner to fully participate for an entire fifteen minute period. Therefore, it is not only important to determine the extent to which the interventionist is open to new and different strategies of intervening with learners who engage in challenging behaviors, but to become familiar with their views on providing consequences.

4. Mode of communication

Although teaching young children an alternate form of communication does not negatively effect their ability to produce verbal language, some professionals (e.g., teachers, speech/language pathologists, physical therapists), as well as other individuals (e.g., parents) may believe this to be true. As a result, they may respond negatively to the suggestion that a learner be taught to point to a graphic symbol or emit a sign in order to communicate their wants and needs. It is important to consider each I.E.P./I.F.S.P. team member's opinion, but at the same time develop an intervention program that will most efficiently and effectively meet the needs of the individual learner. It is important for each of the team members to have an understanding of how to go about identifying the most appropriate mode of communication for the learner and the

importance of considering a communication system consisting of multiple modes.

**How do I design an intervention that will establish a well generalized and conditionally used repertoire of communicative alternatives to challenging behavior?**

In order to establish a well generalized and conditionally used repertoire of communicative alternatives to challenging behavior, applications of an instructional technology referred to as **general case instruction** should be implemented. General case instruction is a technology developed to enhance the performance of learners with severe disabilities in natural settings (Albin & Horner, 1988). Based on the principles of stimulus control, general case programming, concentrates on developing a set of responses that are performed under appropriate conditions and not performed under inappropriate conditions. While incorporating general case instruction into a communicative intervention program, the interventionist not only identifies stimuli that do and do not occasion the use of the communicative replacement, but also identifies the full range of responses that the learner may produce, while refraining from engaging in challenging behaviors.

Inherent in the application of general case instruction, is the concept of **conditional use**. Conditional use refers to the learner's ability to engage in discriminative responding. For example, if a desired item is within close proximity to the learner, independently reaching for it while refraining from emitting a requesting response may be more efficient and socially appropriate than requesting the communication partner to deliver the item to him or her. However, if the desired item is placed out of the learner's reach, emitting the communicative replacement (i.e., request for tangible) may be the most efficient means of procuring the desired item. On other occasions, the learner may refrain from emitting any response at all. Consider if the desired item is placed in the middle of the table and the communication partner is engaged in a conversation with another individual. In this instance, the learner may refrain from

both reaching for and requesting the desired item. The following procedures delineate how one can incorporate general case instruction into communicative replacement interventions.

A. Identify the instructional universe

Identifying the instructional universe for a communicative response involves identifying the range of activities/environments where it is important for the learner to engage in the communicative behavior. All of these activities/environments share a set of relevant characteristics that should set the occasion for the communicative response and are therefore referred to as members of a positive class of stimuli. Identifying the instructional universe also entails identifying members of a negative class of stimuli; occasions where the communicative response should not be produced. In addition, identifying the instructional universe entails identifying the full range of appropriate responses that the learner may emit within these environments that will result in the desired outcome in the absence of any challenging behaviors

Consider for example, a learner who engages in tantrumming in order to acquire access to a favorite toy. In order to identify the instructional universe, his interventionists have identified all of the environments and conditions under which the learner is likely to desire access to his favorite toy. They have also identified situation where the learner should refrain from engaging in the communicative response. Within both types of stimulus conditions (negative and positive), the range of responses that the learner will need to be taught have also been identified (See Table 1).

Table 1. Instructional universe for a learner who engages in tantrumming behavior in order to acquire access to a favorite toy.

Instructional Universe	Appropriate Responses	Rationale for Response
<p><b>Positive Stimulus Class</b></p> <p>1. Favorite toy is not accessible during play time at school.</p> <p>2. While at home in the playroom, favorite toy is visible but out of reach.</p>	<p>1. Point to a graphic symbol of the toy.</p> <p>2. Bring an adult to the toy (if symbol is not present).</p>	<p>1. With toy out of sight, an explicit symbol will result in the interventionist quickly determining the learner's desire to obtain the item.</p> <p>2. When symbol is unavailable learner should gesture rather than revert to the use of challenging behavior.</p>
<p><b>Negative Stimulus Class</b></p> <p>1. Favorite toy is accessible during play time at school.</p> <p>2. While traveling in the car, the favorite toy is not available.</p>	<p>1. Independently procure the toy.</p> <p>2. Refrain from requesting access to the toy.</p>	<p>1. When desired item is accessible during an appropriate time for engagement, learner should independently procure the item.</p> <p>2. In situations where the item is not available the learner should refrain from producing the requesting response.</p>

B. Identify teaching examples

After defining the instructional universe, it is important to identify a number of teaching examples that represent a variation of those instances that call for the use of the communicative replacement, referred to as positive teaching examples and those situations that require the learner to refrain from emitting the communicative replacement, referred to as negative teaching examples. When selecting teaching examples one should consider three different types of contexts for instruction:

1. Those that include both positive and negative teaching examples.  
 Some contexts for communicative replacements may permit both positive and negative teaching examples. For example, when teaching a learner

to request a favorite toy, on some occasions the toy may be placed out of reach, requiring the use of the communicative response. On other occasions, the toy may be within close proximity to the learner, and he should refrain from producing the requesting response.

2. Those that contain only positive teaching examples.

Other contexts always require that the learner produce the communicative response. For example, in school snack items are delivered contingent on the learner's use of an appropriate requesting response (e.g., pointing to a line drawing of snack items).

3. Those that contain only negative teaching examples.

In some contexts, the learner should always refrain from using the communicative behavior being taught. For example, if the learner is proficient at acquiring a drink of water in his home (and his parents do not object), he should should always refrain from using his requesting response in order to procure a drink of water.

In addition to positive and negative teaching examples, examples should also be identified where it is unclear whether or not the learner should emit the communicative response. Consider the learner who is being taught to request access to preferred items. On some occasions it will be clear to the learner that the preferred item is inaccessible (on a shelf well above his head), and as a result he should produce the requesting response. However, on other occasions it is less discriminable to him whether or not he should produce the requesting response (e.g., the item is on top of a book case, more accessible than on the shelf, but less accessible than if it were on the floor). In this situation, the learner may be taught to first attempt to procure the item independently and if unsuccessful, then produce the requesting response. Table 2 provides a set of negative and positive examples, as well as a set of examples that address situations where it is unclear whether or not the requesting response should be emitted.

Table 2. A set of teaching examples for a learner who tantrums in order to gain access to preferred items.

Positive Examples	Unclear whether or not response should be emitted	Negative Examples
<ul style="list-style-type: none"> <li>• Upon entering the toy corner at school</li> <li>• While taking a ride in the car</li> <li>• Playing in the yard at Grandma's house</li> </ul>	<ul style="list-style-type: none"> <li>• After the last song has been sung during circle time</li> <li>• Just before bedtime</li> <li>• While waiting for dinner to be served at Grandma's house</li> </ul>	<ul style="list-style-type: none"> <li>• While engaged in an art activity at school</li> <li>• While taking a bath at home</li> <li>• While having dinner at Grandma's house</li> </ul>

C. Begin Instruction

Instruction should begin with both positive and negative teaching examples. Initially these examples should be maximally discriminable. For example, the learner could be taught to request access to his favorite toy when in the play corner at school. On occasions where he is engaged in an art activity, he could be taught not to engage in his communicative replacement (i.e., requesting response). Across opportunities, the teaching examples can become less and less discriminable, making it less obvious to the learner whether or not he should engage in the communicative response. For example, on some occasions the learner can be taught to request access to the preferred item while waiting for the art activity to begin or right after he has completed the art activity.

**Why is it important to refrain from reinforcing challenging behaviors while establishing new forms of communication?**

When a learner is being introduced to new forms of communication, the interventionist should refrain from reinforcing the challenging behavior. This is extremely important because if engagement in the challenging behavior results in the delivery of reinforcement, there will be no apparent reason from the learner's perspective to emit the new form of communication. Consider for example, a learner who typically throws materials in order to escape a situation. His interventionists have decided to teach him to sign "Break" in order to indicate the desire to take leave. In

this example, if the interventionists continue to reinforce (i.e., permit him to take leave of the situation) each time he engages in his challenging behavior (i.e., throws materials), it is likely that he will continue to engage in his challenging behavior rather than emit his new communicative form (sign "Break"). If the interventionist refrains from reinforcing the challenging behavior, while at the same time ensuring that reinforcement is delivered upon engagement in the communicative alternative, it will be more effective from the learner's perspective to engage in the communicative alternative (i.e., sign "Break"), because this is what results in the desired outcome (i.e., a break from the situation at hand).

### III. Teaching a Leave-take Response as a Replacement for Challenging Behaviors

Many learners will engage in an activity for a brief amount of time before desiring to leave the situation. Some learners express this desire by engaging in challenging behaviors (e.g., aggression, self injurious behaviors or property destruction). When learners desire to leave during the early phases of an activity, it could become disruptive to both the activity at hand and the learner's education program. For example, each day during art period, Timmy desires to leave within the first four minutes of a 15 minute period. Not only does this disrupt the flow of the activity, Timmy rarely has a chance to work on his goals for that period (e.g., identifying colors and shapes, and manipulating materials, such as glue and scissors).

Some times interventionists can manipulate the activity so that the learner will participate in an activity for a longer length of time and will be less likely to desire to leave. This may entail, changing the reinforcing value of the activity (e.g., include desirable tasks within the activity), incorporating a preferred item as a distractor (e.g., allow the learner to listen to his favorite song while cleaning up his toys) or initially accepting minimal amounts of engagement and gradually increasing the expectations over time.

Another alternative for a learner who is engaging in challenging behaviors in order to leave a situation, it is to teach him or her a leave-take response. A leave-take response is a behavior emitted by a learner to indicate his/her desire to remove him or herself from an ongoing activity. In order to lengthen the amount of time that Timmy will engage in an art activity, Timmy's interventionist has decided to implement a Tolerance for Delay/Safety Signal program in conjunction with a leave-take intervention program. A tolerance for delay cue indicates to the learner that in a brief period of time a safety signal ("O.K. we're done") will be delivered, and s/he will be able to take leave from the activity. For example, if Timmy is tiring of the art activity, a delay cue such as "only two more minutes" might provide him with the incentive to participate for a longer amount of time. Once two minutes has elapsed the safety signal, "Okay, we're done" will be delivered and Timmy will be released from the art activity.

Although there are a number of interventions that address escape motivated challenging behaviors, Timmy's educational team has decided that teaching him a leave-take response in conjunction with a safety-signal program, will provide him with

a means of communicating the desire to terminate a variety of activities. In addition, incorporation of the warning of an impending safety-signal will provide the interventionist with a means of lengthening the amount of time Timmy engages in each of the activities, which will result in less interference with Timmy's educational program. The following procedures describe how one can implement a Tolerance for Delay/Safety Signal program in conjunction with teaching a leave-take response.

### **Who would benefit from being taught a leave take response?**

A variety of learners who engage in challenging behavior would benefit from being taught to request leave. The request for leave response can be taught as a communicative replacement for a variety of functions of challenging behavior. It can be taught as a replacement for escape motivated challenging behaviors, as well as for challenging behavior that are tangible motivated.

1. Escape Motivated: Learners whose challenging behaviors are escape motivated (i.e., they engage in challenging behavior in order to escape a situation) would benefit from being taught to request to take leave. Consider for example, a young boy who will participate in a structured activity for a brief amount of time but then begins engage in aggressive behaviors toward his peers when he becomes bored. Another individual may encounter a difficult component in the task and may throw materials in order to have the task terminated. Other learners may become fatigued and may begin to cry. Being provide with a means to communicate the desire to have a task terminated (e.g., sign "Break please") may successfully compete with these challenging behaviors.
2. Obtain Access Motivated: Other learners may desire to take leave in order to gain access to desired items or events. Consider for example, a learner who is happily engaged in a game of cards, until a peer enters the room with remote control car. Such a learner may begin to throw the cards onto the floor in order to terminate the card game so that he may gain access to the remote control car.

## How do I teach a learner to request to take leave?

### 1. Identify the instructional universe

Identifying the instructional universe for a request to take leave response involves identifying the range of activities environments where it is important for the learner to engage in the communicative behavior (referred to as a positive class of stimuli). It also involves identifying members of a negative class of stimuli; occasions where the learner should refrain from engaging in the request to take leave. In addition, it entails identifying the full range of response forms that the learner may emit within these environments in order to communicate the desire to take leave (See table 1).

Table 1. Instructional universe for a request to take leave response.

Instructional Universe	Appropriate Response	Rationale for Response
<p><b>Positive Stimulus Class</b></p> <p>1. After engaging in a nonpreferred task for a brief period of time.</p> <p>2. Upon becoming bored with a play activity.</p>	<p>1. Sign "Break, please".</p> <p>2. Learner signs "I'm bored".</p>	<p>1. Use of the sign will result in the interventionist quickly determining the learner's desire to take leave of the activity.</p> <p>2. The production of the sign will result in the learner's peers and/or interventionist quickly determining that she desires to take leave of the play activity.</p>
<p><b>Negative Stimulus Class</b></p> <p>1. Learner is engaged in a highly preferred activity (when not satiated).</p> <p>2. Offer of item or event that the learner could be allowed to avoid (i.e., eating a nonpreferred food, or participating in a nonpreferred game).</p>	<p>1. Learner refrains from producing the request to take leave.</p> <p>2. Learner refrains from producing the request to take leave.</p>	<p>1. When engaged in a preferred activity, in which the learner has not satiated, she or he should refrain from emitting the request to take leave response.</p> <p>2. In situations where the learner is able to avoid the nonpreferred item/task entirely, she or he should refrain from engaging in the request to take leave response.</p>

## 2. Identify teaching examples

The following steps delineate procedures for identifying teaching examples to be used in replacing challenging behaviors with a request to take leave response.

### Step 1: Identify situations that serve as contexts for requests to take leave.

The following examples illustrate various situations that might cause certain learners to desire to escape a activity:

- i. While engaged in an activity the learner desires access to a more desirable alternative
- ii. While engaged in an activity the learner becomes fatigued
- iii. While engaged in an activity the learner becomes bored
- iv. The task at hand becomes too difficult for the learner
- v. During an activity, the learner realized s/he must terminate the task in order to abide by a schedule

### Step 2: Identify the range of teaching examples.

Once situations that serve as contexts for requests to take leave have been identified, the interventionist should identify the full range of teaching examples. This entails identifying positive teaching examples, where the learner should engage in the request attention response, as well as negative teaching examples, where the learner should refrain from engaging in the request to take leave response. In addition, examples should be identified where it is unclear whether or not the learner should emit the request for attention response.

### Step 3: Conduct an analysis of the efficiency of the communicative replacement.

In order to ensure that the communicative replacement is efficient from the learner's perspective, it is essential for the interventionist to perform an analysis of the efficiency of the communicative response in relationship to the existing response (i.e., the challenging behavior). Table 2 has been provided in order to illustrate how one would go about analyzing each aspect of response efficiency when teaching a request to take leave response.

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 Insert Table 2 about here  
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Step 4: Determine the point in an activity at which the learner is likely to desire to take leave.

Direct observation should take place when the learner is engaged in activities where it is likely that s/he will emit the challenging behavior in order to leave an activity. However, a variety of stimulus conditions may result in the occurrence of challenging behavior.

- Learners may engage in escape motivated challenging behavior upon completing a number of discrete tasks. For example, after buttoning two buttons on a sweater, after putting away three toys, etc.
- For other learners engaging in escape motivated challenging behavior may be contingent upon how long they have engaged in a particular activity. For example, after participating in a group music activity, Mary becomes bored and begins to engage in challenging behavior.

There are two different options for determining the point at which the learner is likely to desire to escape an activity. The first option addresses learners for whom time is a factor in their escape motivated challenging behaviors, and the second option will address learners for whom the number of discrete tasks in which she or he has engaged is a factor.

Option 1: Identifying the number of discrete tasks the learner will complete before engaging in escape motivated challenging behavior.

Information regarding the learner's behavior can be documented according to how much of the activity the learner engaged in, before emitting the challenging behavior. For example, a learner who is not very fond of putting all of his toys away, may pick up three toys while cleaning up his room, before he begins to engage in tantrumming behavior. Documentation of the learner's behavior and the point in the activity where the behavior was emitted will provide the interventionist with important information regarding:

- the types of behavior(s) that are emitted by the learner in order to take leave from an activity

-the portion of the task that the learner will complete, before emitting the identified behavior(s).

The following procedures indicate how this information should be acquired. The Leave Take Observation Sheet (Discrete Tasks) Form A can be used to record the information.

- 1) When learners are engage in activities that require the completion of a number of discrete tasks (e.g., putting a number of toys away, placing a number of napkins on a table, or putting on or removing a articles of clothing), the interventionist can document the behavior of the learner by keeping a tally of the number of discrete tasks that the learner will engage in, in the absence of challenging behaviors. For example, the number of toys that the learner puts away, the number of napkins s/he place on the table, or the number of articles of clothing that the learner will tolerate being put on or removed. The interventionist should continue to tally the number of tasks that the learner performs, from the moment s/he starts the activity until s/he begins to indicate the desire to take leave.
- 2) Record the number of discrete tasks over a several occurrences of the activity..
- 3) Identify the fewest number of tasks that the learner will perform, before s/he engages in the challenging behavior..

For example, Fig 1 illustrates behaviors emitted by Vanessa while cleaning up the toy corner. Across all four days, she would place at least 3 toys on the shelf before she would throw herself on the floor and scream:

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Insert Figure 1 about here  
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Option 2: Identify the length of time the learner will engage in an activity prior to engaging in escape motivated challenging behaviors.

Another way to record the learner's behavior, is to document how long the learner will engage in an activity (e.g., free play, art, music) before emitting the challenging behavior in order to leave. Documentation of the learner's behavior and the time that it was emitted will provide the interventionist with important information regarding:

- the types of behavior(s) that are emitted by the learner in order to take leave from an activity.
- the length of time that the learner will participate in the activity before s/he emits the identified behavior(s)

The following procedures indicate how this information should be acquired. The Leave Take Observation Sheet (Critical Time) Form B can be used to record the information.

- 1) Time the learner from the moment s/he starts the activity until s/he begins to indicate the desire to take leave (note: the amount of time that the learner remains engaged in the task can be measured by watching a clock in the room, counting seconds quietly to your self or by using a stop watch).
- 2) Record this time interval over several occurrences of the activity.
- 3) Identify the shortest amount of time that the learner will participate without emitting the behavior.

For example, Fig 2 illustrates the behaviors emitted by Timmy while engaged in a art activity. Across all three days, he would participate in the activity for at least 3 minutes and 20 seconds before he would throw materials onto the floor.

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Insert Figure 2 about here  
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### 3. Begin instruction

Step 1: Order teaching examples to ensure generalized and conditional use of the request to obtain attention response.

Instruction should begin with both positive and negative teaching examples. Initially these examples should be maximally discriminable. For example, while engaged in a neutral activity for an extended amount of time, the learner could be instructed to emit a leave take response. On other occasions where the learner is engaged in a highly preferred activity and is not satiated, she or he is taught not to engage in the leave take response. Across opportunities, the teaching examples can become less and less discriminable, making it less obvious to the learner whether or not she or he should engage in the response. For example, the learner can be provided with opportunities where the activity at hand is highly preferred but the learner has been engaged for a considerably long length of time.

Step 2. Introduce a tolerance for delay cue prior to the point where the learner is likely to desire to take leave.

Once the amount of time (or number of discrete tasks) that the learner will participate in an activity before desiring to take leave is identified, a tolerance for delay cue can be introduced (See corresponding section in this module). The tolerance cue indicates to the learner that in a brief period of time, a safety signal ("Okay, we're done") will be delivered and she or he will be released from the activity, contingent on refraining from engaging in the challenging behavior. For example, if a learner is likely to desire to leave an activity after participating for only a brief amount of time, a tolerance for delay cue such as "only one more minute", might provide the learner with the incentive to participate in the activity for a longer amount of time. Learners who are engaged in an activity that requires a series of discrete tasks might also desire to take leave after performing only a limited number of the tasks. In these cases, a delay cue such as "only two more toys" may be used to indicate to the learner that after performing only two more tasks, she or he will be released from the activity.

The tolerance for delay cue should be introduced just prior to the point in the task where the learner is likely to desire to take leave from the activity. Consider Timmy for example. It was noted that Timmy will engage in an activity for approximately three and a half minutes before exhibiting the desire to take leave (throws his materials). A delay cue may be introduced to him just before the time that he is likely to throw his materials. For example, at exactly three minutes into the activity the teacher can deliver the delay cue, "We are almost finished Timmy".

Now consider learners such as Vanessa, who desire to take leave from an activity after performing only a limited number of discrete tasks. In these cases, the tolerance for delay cue can be delivered immediately before the learner engages in the number of tasks that she tends to engage in, before emitting any challenging behaviors. Vanessa for example, would place at least three toys on the shelf before she would throw herself on the floor and begin to scream. Vanessa's interventionist could deliver the delay cue "only two more toys Vanessa" just before she went to place the third toy on the shelf.

Step 3: Deliver a Safety Signal and Release the learner from the activity

Immediately following the tolerance for delay cue, the interventionist would deliver a safety signal (e.g., "Okay, you're done", "We're finished"), immediately followed by release from the task. For example, following the Timmy's tolerance for delay cue "only one more minute" his interventionist delivers the safety signal "Okay, you're done" and then immediately releases Timmy from the art activity.

Step 4: Immediately following the tolerance for delay cue, prompt the learner to engage in the request to take leave response.

Following the delivery of the tolerance for delay cue, the interventionist immediately prompts (e.g., verbally, gesturally or physically) the learner to engage in an appropriate leave-take response. For example, upon providing Timmy with the delay cue, "We are almost done Timmy" the interventionist will immediately verbally prompt Timmy ("Sign 'break please' Timmy") to engage in the request to take leave response. The safety signal is then delivered and the learner is released from the activity immediately following the appropriate communicative response (e.g., signing "break please").

Another alternative would be to gradually increase the interval of time between the delivery of the tolerance for delay cue and the safety signal which results in release from the activity. If the interventionist chooses to do this, she or he may then implement this step (i.e., prompt the learner to engage in the appropriate leave-take response) after it has been established that the learner will participate in the activity for a significant amount of time following the delivery of the tolerance for delay cue.

**Note:** The interventionist should be sure not to prompt the learner to perform the new response, following the occurrence of the challenging behavior. This could lead to the learner chaining the two responses. For example, each time the learner desires to take leave of the situation he throws his materials onto the floor. If each time the learner engages in this behavior (e.g., throwing materials) the interventionist prompts him to engage in the communicative response (e.g., Says, "Sign 'Break Please' Timmy") it is likely that the learner will begin to consistently perform both of these behaviors (throwing materials and signing "Break please").

Step 5: Gradually lengthen the interval of time between the tolerance for delay cue and the communicative response.

Over time, the interval between the introduction of the tolerance for delay cue and the leave-take response can be gradually lengthened. For example, if the tolerance for delay cue is initially introduced at three minutes into the task (and the learner is not indicating the desire to take leave) the interventionist may wait until three minutes and ten seconds into the task before prompting the learner to emit the leave-take response. Over time, the interventionist may choose to increase this interval.

**Note:** On some occasions the learner may emit the appropriate leave-take response before the desired time interval has lapsed. When this occurs the interventionists should alternate between the following two procedures:

- a. On some occasions the learner would be released from the activity. This would ensure that at least on some occasions the learner was being

immediately reinforced (i.e., released from the activity) immediately following engagement in the leave-take response.

- b. On other occasions, the interventionist may deliver the tolerance for delay cue, insert a "wait time" and then release the learner from the activity. In this situation, the learner's request to take leave was acknowledged, however, she or he was expected to engage in the activity for a brief amount of time prior to the the delivery of reinforcement (i.e., a break from the activity)

Step 6: Lengthen the amount of time the learner engages in the task by delivering the tolerance for delay cue at a later point.

As a means of lengthening the amount of time that the learner independently engages in a task, the tolerance for delay cue may be delivered at a later and later point in the activity. If the delay cue was first introduced at 3 minutes into the task, over teaching opportunities this interval may be increased to 3 minutes and 10 seconds, and then to 3 and 1/2 minutes over successive teaching opportunities.

Step 7: Deliver the tolerance for delay cue before the learner is likely to desire to take leave and following the leave-take response.

Once the learner is independently emitting the appropriate leave-take response (e.g., signing "break please") the interventionist may deliver the tolerance for delay cue prior to the point in the activity where the learner is likely to desire to take leave, in addition to, after the learner has engaged in the response. Let's consider Timmy for example. At 3 and 1/2 minutes into the activity, his teacher delivers the delay cue (e.g., "We are almost finished Timmy"). The teacher then waits until Timmy independently emits the leave-take response (signs "Break please"). When Timmy emits the response, his teacher may again deliver the delay cue ("We are almost finished Timmy"). Once again, the interventionist may decide to release Timmy from the task contingent on his performance. For example, if Timmy had successfully completed the task, when he emitted the leave-take request, the interventionist might decide to immediately release him from the activity.

Step 8: Once the learner is independently emitting the leave-take response, begin to follow it with a tolerance for delay cue.

Once the learner is emitting a leave-take response independently, s/he may do so early on in an activity, or at an inappropriate time (e.g., s/he was given a break from the activity, or the learner would miss out on a crucial part of the activity). In this case, the interventionist can deliver the delay cue immediately following the learner's leave-take response. This would result in an increase in the amount of time that the learner engages in the activity. The following procedures indicate how to implement a tolerance for delay/safety signal program when the learner is independently engaging in the leave-take response.

- a. Immediately following the learner's leave-take response (e.g., signs "break please"), the interventionist delivers the tolerance for delay cue (e.g., "Just one more minute") and then immediately delivers the safety signal "Okay, we're done" and releases the learner from the activity.
- b. Over teaching opportunities the amount of time between the delivery of the tolerance for delay cue and the delivery of the safety signal is gradually increased. Considering Timmy for example, who by now has learned to request to take leave independently. Upon emitting the leave-take response, his teacher responds, "Just one more minute Timmy" and then waits 10 seconds before delivering the safety signal and releasing Timmy from the activity. Over teaching opportunities, this interval can be increased by small intervals of time. For example, once Timmy successfully waits for 10 seconds, the time interval can be increased to 11 seconds then 12 seconds. The interventionist is acknowledging the learner's request to take leave, but at the same time is extending the amount of time the he is engaged in the activity.
- c. The interventionist may also begin to delay the presentation of the tolerance for delay cue. For example, after the learner emits the leave-take response, the interventionist may wait thirty seconds before saying "Oh, you would like a break, O.K., how about in one minute?"

- d. If the learner decides to participate in the activity in absence of requesting to take leave, the interventionist may reward the learner with a highly preferred item/activity. For example, if Timmy engages in a task for 5 minutes without requesting to take leave, the interventionist may say "Great job Timmy! You worked for five minutes! Here is your favorite picture book." For some learners, it may become more advantageous to continue participation in the task at hand, and receive this highly preferred object or activity, than it is to take a break from engaging in the task.

### **How do I keep track of the learner's progress?**

In order to keep track of the learner's progress, it will be necessary to monitor his/her performance during the leave-take intervention program. For example, using the Leave-take observation sheet (Form A), Vanessa's teacher identified that Vanessa would place at least three toys (critical number of discrete tasks) on the shelf before she would throw herself on the floor and scream. Therefore, her teacher decided she would deliver the delay cue "Almost done" to Vanessa after she successfully placed two toys on the shelf. Following the delay cue, her teacher would then prompt her to emit her leave-take response (i.e., verbalize "All done")

In order to keep track of Vanessa's performance her teacher developed the Leave Take Observation Form (Discret Trial Task) [Form C]. This progress sheet enables the interventionist to write the date, fill in the critical number of discrete tasks and indicate if the leave-take response was emitted by the learner by circling the level of prompt that was delivered (If the learner emitted the response spontaneously, "N" would be circled to indicate "No prompt"). The interventionist can also keep track of the target behavior (i.e., throwing materials) by placing an "X" in the appropriate column, if the behavior does occur.

As Vanessa's progress sheet indicates (See Fig. 3), when provided with a verbal prompt after putting two toys onto the shelf, she emitted the leave-take response on five occasions. As a result of her success, her interventionist decided to increase the critical number of discrete tasks to three toys before delivering the delay cue "Almost done" and then prompting her to say "All done". After three successful opportunities, Vanessa's teacher increased the critical number of discrete tasks to five toys. Eventually, Vanessa was able to independently pick up all of the toys in the toy area before requesting to take leave by saying "All done".

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Insert Figure 3 about here  
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In our other example, Timmy's teacher indicated that when he became bored with an activity (i.e., coloring) he would throw materials onto the floor. The shortest amount of time that Timmy would engage in the activity (critical time period) was 3.5 minutes (information was derived from use of the Leave Take Observation Form (Critical Time). In order to keep track of Timmy's performance his teacher developed a Leave Take Progress Sheet (Critical Time) [Form D].

As Timmy's progress sheet indicates (See Fig. 4), when provided with a full gestural prompt, he emitted the leave-take response on five occasions. As a result of Timmy's success, his interventionist decided to increase the critical time period to four minutes and before delivering the delay cue "We are almost finished Timmy" and then prompting him to sign "break please". On these occasions Timmy began to throw materials, before the delay cue or instructional prompt was delivered. Due to Timmy's engagement in the target behavior, his interventionist realized that the critical time period was probably too long and decreased it back to 3 minutes. She then decided to increase this time period in increments of 30 seconds instead of 60. This resulted in Timmy's interventionist increasing the time that he engaged in an art activity in the absence of challenging behavior to 7 minutes. At this point, Timmy was independently emitting the leave take response.

-----  
Insert Figure 4 about here  
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### **How do I know if the program is working?**

In order to determine if the program is working, it will be necessary to examine the learner's progress over a period of time. This will be accomplished using the information obtained from the learner's progress sheet. Figure 5 incorporates the information from Vanessa's progress sheets.

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Insert Figure 5 about here  
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Figure 5 illustrates that Vanessa's leave-take intervention program is progressing nicely. The number of discrete tasks in which she engages (i.e., the number of toys that she puts on the shelf) has been steadily increasing. Initially, her interventionist delivered the tolerance cue "Put 2 more toys away" before prompting her to emit the leave take response "All done". After five successful opportunities, her interventionist increased the critical number of tasks to 3. After 3 successful opportunities the critical number was increased to five. By the 12th opportunity, Vanessa was picking up all of the toys in the play area before requesting to take leave.

Figures 6 and 7 incorporate the information from Timmy's progress sheets in order to determine if the program is working. Figure 6 illustrates that Timmy's leave-take intervention program is progressing nicely. His time engaged in the coloring task has been steadily increasing. Fig. 7 illustrates that Timmy is emitting the appropriate leave-take response (i.e., pointing to his break symbol), in order to request a break from the coloring activity. On the occasion where he engaged in the challenging behavior (throwing materials) his interventionist increased the critical time period by 60 seconds, moving it from 3 minutes to 4 minutes. Timmy engaged in challenging behavior before the delay cue was delivered. As a result, on the next two opportunities, his interventionist delivered the delay cue at 3 minutes and then increased the interval by 30 seconds (i.e., delivered the delay cue at 3 minutes and 30 seconds). The interval was increased by 30 seconds on three more opportunities. When Timmy performed successfully on all three of these opportunities, his interventionist again attempted to increase the interval by 60 seconds. This time it was successful, and Timmy was able to stay in the art activity for up to 6 and then 7 minutes.

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Insert Figures 6 and 7 about here

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Table 1. An example of a Response Efficiency Analysis for a learner being taught to request to take leave as a communicative replacement for challenging behavior that serves the function of escaping a task.

	Challenging Behavior	An Inefficient Response	An Efficient Response
Response Effort	While engaging in art activities, Timmy often begins to throw materials onto the floor in order to indicate his desire to terminate the activity.	An inefficient communicative replacement would be for Timmy to locate his letter communication board, make sure a staff is within close proximity to decode his message and then spell out "I n-e-e-d a b-r-e-a-k p-l-e-a-s-e!"	An efficient communicative replacement from Timmy's perspective would be to sign "Break Please" in order to indicate his desire to terminate the activity.
Rate of Reinforcement	After Timmy throws his art materials onto the floor, his teacher and classroom assistants all provide offers, at various times within the remainder of the activity to engage in alternate activities.	It would be inefficient from Timmy's perspective if when he emitted his communicative replacement (e.g., signed "Break please", only the classroom assistant responded to his request and offered on only one occasion for him to engage in an alternate activity.	When Timmy emits his communicative alternative (i.e., signs "Break please") his teacher and classroom assistant all respond at varying points in the activity by offering him alternatives.
Quality of Reinforcement	After Timmy throws his materials onto the floor in order to acquire a break, his classroom teacher brings him to the play corner and lets him play with his favorite toys.	It would be inefficient from Timmy's perspective if following his engagement in the communicative replacement, his teacher merely put the art materials away, but did not permit him to go play with his favorite toys.	Following Timmy's request to take a break, his teacher is sure to allow him to go to the play corner and she ensures that his favorite toys are available.
Immediacy of Reinforcement	After Timmy throws his art materials onto the floor, his teacher immediately terminates the art activity.	Following Timmy's request to take leave, his teacher says "Oh, just work for 5 more minutes Timmy", and when five minutes passes she does not acknowledge his efforts, nor does she release him from the art activity.	After Timmy signs "Break please", his teacher immediately removes the art materials and allows Timmy to leave the art area.

**Form A**

**Leave-Take Observation Sheet  
(Discrete Trial Task)**

Student Name: \_\_\_\_\_

Activity: \_\_\_\_\_

Recorder: \_\_\_\_\_

Discrete Trial Task to be Performed:  
\_\_\_\_\_

**Directions:**

For each opportunity:

- a) write the date
- b) tally the number of discrete trials that the learner performs
- c) total the number of discrete trials that the learner performed, before emitting the challenging behavior
- d) if the learner engages in the challenging behavior, place an "X" in the corresponding column and
- e) note the behavior emitted by the learner

Date	Tally Each discrete Trial Performed	Total # of trials performed before behavior was emitted	Behavior Emitted	Challenging Behavior
			—	
			—	
			—	
			—	
			—	
			—	
			—	
			—	
			—	
			—	
			—	
			—	
			—	
			—	
			—	

Figure 1

Form A

Leave-Take Observation Sheet  
(Discrete Trial Task)

Student Name: Vanessa

Directions:

Activity: Cleaning the toy corner

For each opportunity:

Data Collector: K.F.

- a) write the date
- b) tally the number of discrete trials that the learner performs
- c) total the number of discrete trials that the learner performed, before emitting the challenging behavior
- d) if the learner engages in the challenging behavior, place an "X" in the corresponding column and
- e) note the behavior emitted by the learner

Discrete Trial Task to be Performed: Pick up one toy and place it on the shelf

Date	Tally Each discrete Trial Performed	Total # of trials performed before behavior was emitted	Behavior Emitted	Description of the Challenging behavior
1/8	//	2	<u>x</u>	Threw self on floor
1/8	//	2	<u>x</u>	Threw self on floor
1/9	//	2	<u>x</u>	Threw self on floor
1/9	///	3	<u>x</u>	Threw self on floor
1/10	//	2	<u>x</u>	Threw self on floor
			—	
			—	
			—	
			—	
			—	
			—	
			—	
			—	
			—	

Form B

### Leave-Take Observation Sheet (Critical Time)

Directions: For each opportunity:

Student Name: \_\_\_\_\_

Activity: \_\_\_\_\_

Observer: \_\_\_\_\_

- a) write the date
- b) note the amount of time that lapsed before the challenging behavior was emitted
- d) note the behavior emitted by the learner

Date	Amount of time before behavior was emitted	Challenging Behavior	Date	Amount of time before behavior was emitted	Challenging Behavior
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	

Figure 2

Form B

### Leave-Take Observation Sheet (Critical Time)

Student Name: Timmy  
 Activity: In-seat art activities  
 Observer: K.F.

Directions: For each opportunity:  
 a) write the date  
 b) note the amount of time that lapsed before the challenging behavior was emitted  
 d) note the behavior emitted by the learner

Date	Amount of time before behavior was emitted	Challenging Behavior	Date	Amount of time before behavior was emitted	Challenging Behavior
11/4	4 min. 0 sec.	threw materials onto floor		__ min. __ sec.	
11/5	3 min. 55 sec.	threw materials onto floor		__ min. __ sec.	
11/6	3 min. 20 sec.	threw materials onto floor		__ min. __ sec.	
	__ min. __ sec.			__ min. __ sec.	
	__ min. __ sec.			__ min. __ sec.	
	__ min. __ sec.			__ min. __ sec.	
	__ min. __ sec.			__ min. __ sec.	
	__ min. __ sec.			__ min. __ sec.	
	__ min. __ sec.			__ min. __ sec.	
	__ min. __ sec.			__ min. __ sec.	
	__ min. __ sec.			__ min. __ sec.	
	__ min. __ sec.			__ min. __ sec.	
	__ min. __ sec.			__ min. __ sec.	
	__ min. __ sec.			__ min. __ sec.	
	__ min. __ sec.			__ min. __ sec.	

**Form C**

**Leave-Take Procedure Sheet  
(Discrete Trial Task)**

Student Name: \_\_\_\_\_  
 Activity: \_\_\_\_\_  
 Data Collector: \_\_\_\_\_

**Directions:**  
 For each opportunity:

- a) write the date
- b) write the critical time number of discrete trial tasks
- c) tally the number of discrete trials that the learner performs
- d) total the number of discrete trials
- e) if the learner emits the leave-take response, circle the level of prompt delivered  
 F = Full prompt  
 P = Partial prompt  
 N = No prompt
- d) place an "X" on the line if the target behavior was emitted (e.g., tantruming)

**Prompt Method:** Circle the prompting method(s) used

P=physical prompt (e.g. placed the learner's hand on the symbol)

G=gestural prompt (e.g. point to the symbol)

V-verbal prompt (e.g. "point to your symbol")

N=no prompt necessary, spontaneous

Discrete Trial Task to be Performed: \_\_\_\_\_

Date	Critical number of Discrete Trial Tasks	Tally Each discrete Trial Performed	Total # of trials performed	Emitted Leave-take Response			Behavior Emitted
				F	P	N	
				F	P	N	—
				F	P	N	—
				F	P	N	—
				F	P	N	—
				F	P	N	—
				F	P	N	—
				F	P	N	—
				F	P	N	—
				F	P	N	—
				F	P	N	—
				F	P	N	—

## Leave-Take Progress Sheet (Discrete Trial Task)

Student Name: Vanessa  
 Activity: Cleaning up the toy corner  
 Data Collector: K. E.

**Directions:**

For each opportunity:

- a) write the date
- b) write the critical number of discrete trial tasks
- c) tally the number of discrete trials that the learner performs
- d) total the number of discrete trials
- e) if the learner emits the leave-take response, circle the level of prompt delivered  
 F = Full prompt  
 P = Partial prompt  
 N = No prompt
- d) place an "X" on the line if the target behavior was emitted (e.g., tantrumming)

**Prompt Method:** Circle the prompting method(s) used  
 P=physical prompt (e.g. placed the learner's hand on the symbol)  
 G=gestural prompt (e.g. point to the symbol)  
 V=verbal prompt (e.g. "point to your symbol")  
 N=No prompt necessary, spontaneous

Discrete Trial Task to be Performed: Pick up one toy and place it on the shelf

Date	Critical Number of Discrete Trial Tasks	Tally Each discrete Trial Performed	Total # of trials performed	Emitted Leave-Take Response Level of prompt	Behavior Emitted
1/12	2	///	2	(F) P N	—
1/12	2	///	2	(F) P N	—
1/13	2	///	2	(F) P N	—
1/13	2	///	2	(F) P N	—
1/14	2	///	2	(F) P N	—
1/14	3	///	3	(F) P N	—
1/15	3	///	3	F (P) N	—
1/15	3	///	3	F (P) N	—
1/16	5	#####	5	F P (N)	—
1/16	5	#####	5	F P (N)	—
1/17	5	#####	5	F P (N)	—
1/17	All toys			F P (N)	—
1/18	All toys			F P (N)	—
				F P N	—

**Form D**

**Leave-Take Progress Sheet  
(Critical Time)**

Student Name: \_\_\_\_\_  
 Activity: \_\_\_\_\_  
 Recorder: \_\_\_\_\_

**Directions:**

For each opportunity:

- a) write the date
- b) if the learner emits the leave-take response, circle the level of prompt delivered  
 F=Full prompt  
 P=Partial prompt  
 N=No prompt
- c) place an "X" on the line if the target behavior was emitted (e.g., tantruming)

**Prompt Levels:**

P=physical prompt (e.g. placed the learner's hand on the symbol)  
 G=gestural prompt (e.g. point to the symbol)  
 V-verbal prompt (e.g. "point to your symbol")  
 N=no prompt necessary, spontaneous

Date	Critical Time Period	Emitted Leave-Take Response level of prompt			Behav. Emitted	Date	Critical Time Period	Emitted Leave-Take Response (prompt needed)			Behav. Emitted
	__ min. __ sec.	F	P	N			__ min. __ sec.	F	P	N	__
	__ min. __ sec.	F	P	N			__ min. __ sec.	F	P	N	__
	__ min. __ sec.	F	P	N			__ min. __ sec.	F	P	N	__
	__ min. __ sec.	F	P	N			__ min. __ sec.	F	P	N	__
	__ min. __ sec.	F	P	N			__ min. __ sec.	F	P	N	__
	__ min. __ sec.	F	P	N			__ min. __ sec.	F	P	N	__
	__ min. __ sec.	F	P	N			__ min. __ sec.	F	P	N	__
	__ min. __ sec.	F	P	N			__ min. __ sec.	F	P	N	__
	__ min. __ sec.	F	P	N			__ min. __ sec.	F	P	N	__
	__ min. __ sec.	F	P	N			__ min. __ sec.	F	P	N	__
	__ min. __ sec.	F	P	N			__ min. __ sec.	F	P	N	__
	__ min. __ sec.	F	P	N			__ min. __ sec.	F	P	N	__
	__ min. __ sec.	F	P	N			__ min. __ sec.	F	P	N	__
	__ min. __ sec.	F	P	N			__ min. __ sec.	F	P	N	__



Figure 4

Form D

### Leave-Take Progress Sheet (Critical Time)

Student Name: Timmy

Activity: Art

Recorder: K.F.

**Directions:**

For each opportunity:

- a) write the date
- b) if the learner emits the leave-take response, circle the level of prompt delivered  
 F=Full prompt  
 P=Partial prompt  
 N=No prompt
- c) place an "X" on the line if the target behavior was emitted (e.g., tantruming)

Prompt Levels:

- P=physical prompt (e.g. placed the learner's hand on the symbol)
- G=gestural prompt (e.g. point to the symbol)
- V=verbal prompt (e.g. "point to your symbol")
- N=no prompt necessary, spontaneous

Date	Critical Time Period	Emitted Leave-Take Response level of prompt	Behav. Emitted	Date	Critical Time Period	Emitted Leave-Take Response level of prompt	Behav. Emitted
11/8	3 min. 0 sec.	<input checked="" type="radio"/> F P N		11/21	6 min. 0 sec.	F P <input checked="" type="radio"/> N	—
11/9	3 min. 0 sec.	<input checked="" type="radio"/> F P N		11/27	7 min. 0 sec.	F P <input checked="" type="radio"/> N	—
11/10	3 min. 0 sec.	<input checked="" type="radio"/> F P N			__ min. __ sec.	F P N	—
11/11	3 min. 0 sec.	<input checked="" type="radio"/> F P N			__ min. __ sec.	F P N	—
11/12	3 min. 0 sec.	<input checked="" type="radio"/> F P N			__ min. __ sec.	F P N	—
11/13	4 min. 0 sec.	F P N	X		__ min. __ sec.	F P N	—
11/14	3 min. 0 sec.	<input checked="" type="radio"/> F P N			__ min. __ sec.	F P N	—
11/15	3 min. 0 sec.	<input checked="" type="radio"/> F P N			__ min. __ sec.	F P N	—
11/16	3 min. 30 sec.	<input checked="" type="radio"/> F P N			__ min. __ sec.	F P N	—
11/17	3 min. 30 sec.	<input checked="" type="radio"/> F P N			__ min. __ sec.	F P N	—
11/18	4 min. 0 sec.	F <input checked="" type="radio"/> P N			__ min. __ sec.	F P N	—
11/19	4 min. 30 sec.	F <input checked="" type="radio"/> P N			__ min. __ sec.	F P N	—
11/20	5 min. 0 sec.	F <input checked="" type="radio"/> P N			__ min. __ sec.	F P N	—

Fig. 5

### Number of Toys Placed on Shelf

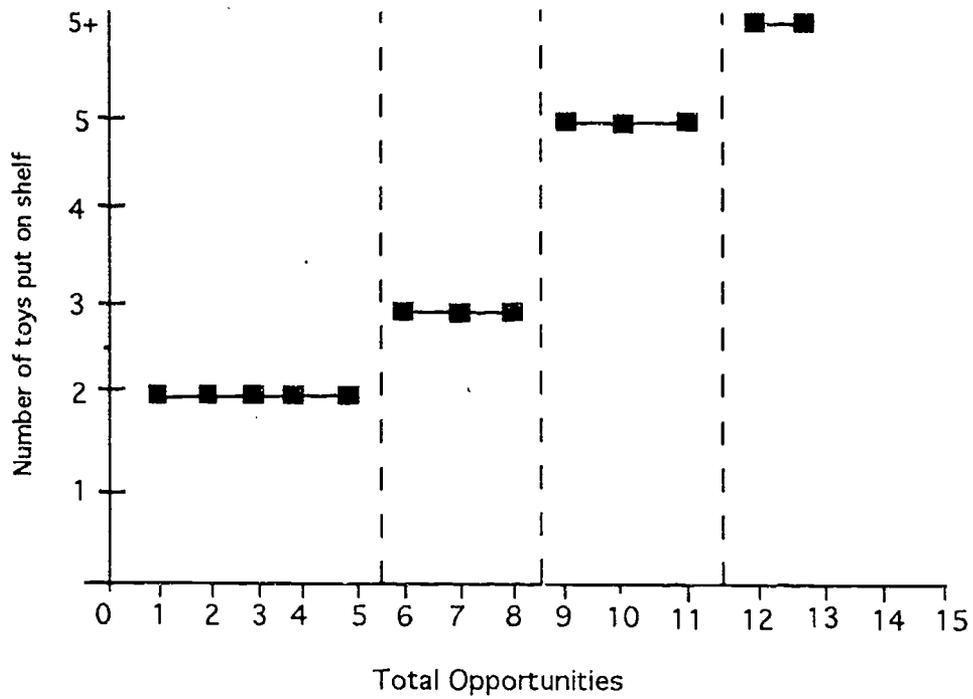


Fig. 6

### Time Spent in Coloring Activity

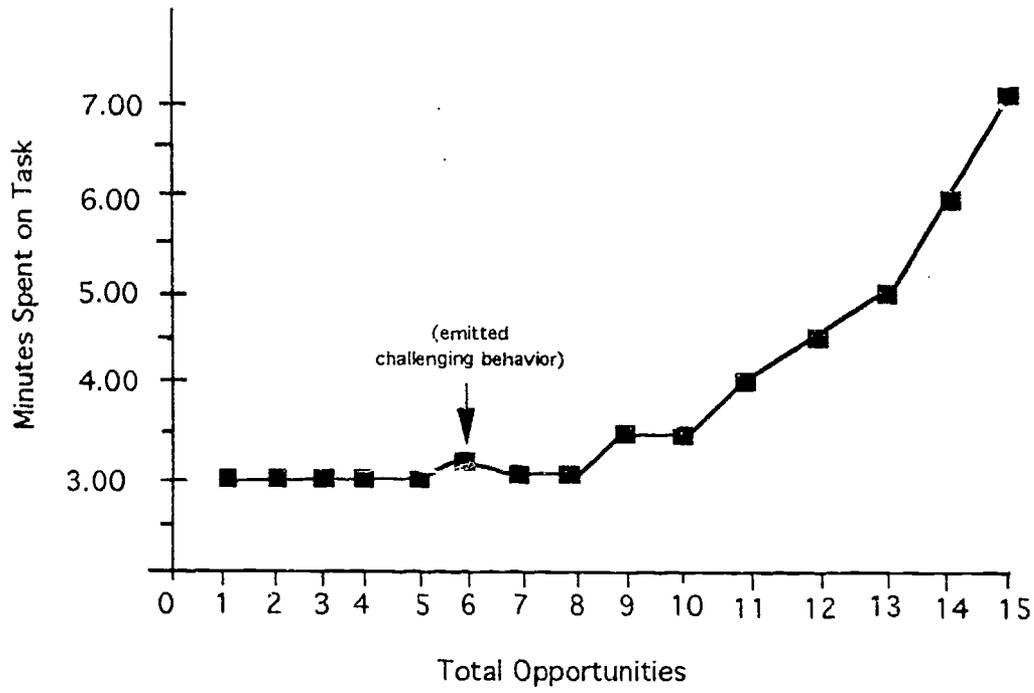
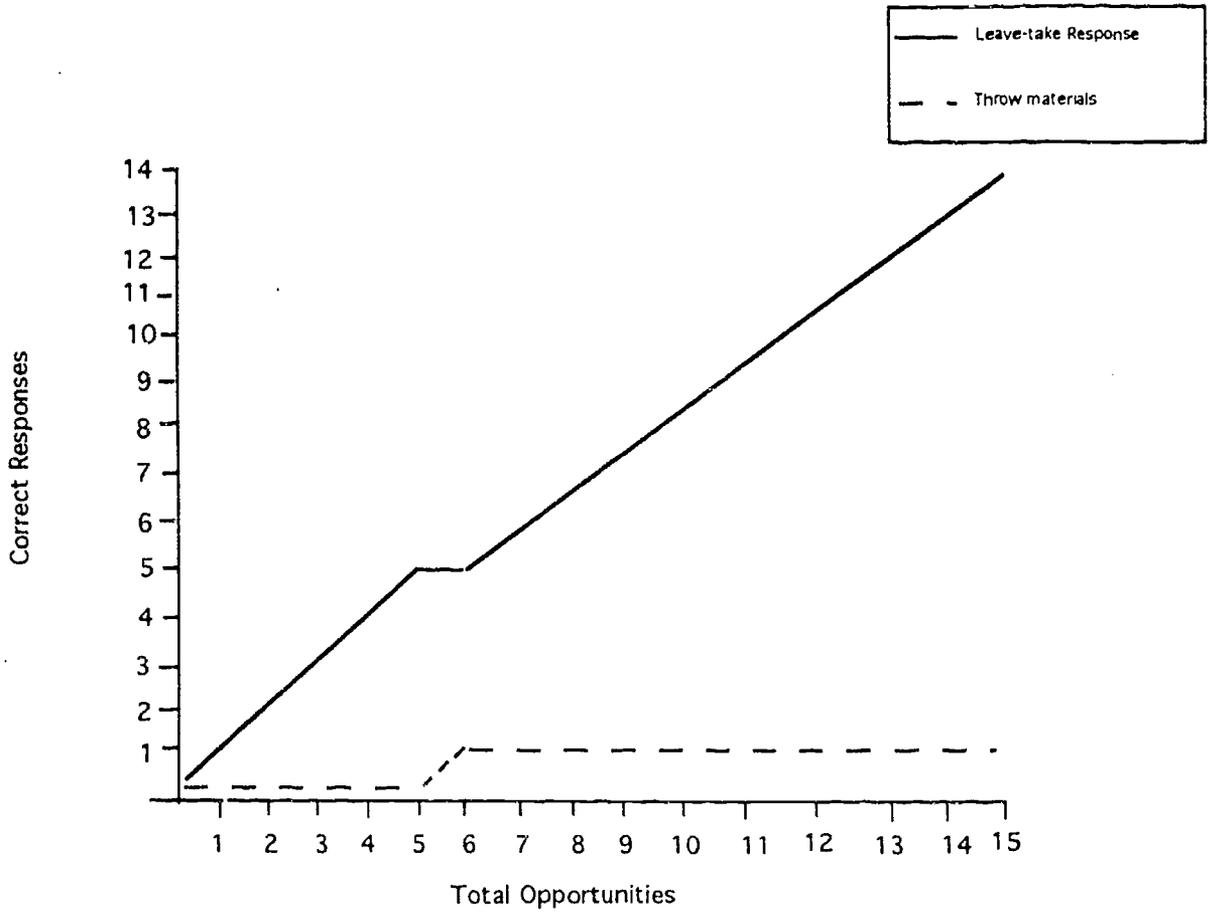


Fig. 7

### Occurrence of Leave-Take Response and Throwing Materials



# Teaching a Tolerance for Delay of Reinforcement

## What is teaching a tolerance for delay of reinforcement?

Teaching a tolerance for delay of reinforcement is a strategy that uses two different cues, a delay cue and a safety signal. The delay signal is used to signal to the individual the wait period and the safety signal is used to signal a release to reinforcement. The procedures purpose is to increase the amount of time a child will continue to participate in activity without engaging in challenging behavior.

For example, Eric will participate in an art activity for a short period of time before he begins to engage in challenging behavior to escape the art activity. The teacher can implement this strategy to teach Eric to tolerate a delay of reinforcement (i.e., escaping from the art activity) for increasingly longer periods of time without engaging in challenging behavior. In another situation, Karen engages in challenging behavior when she is not able to obtain a preferred item as soon as she makes the request. The teacher in this situation can implement this strategy to teach Karen to tolerate the delay in obtaining the preferred or requested object.

## What is a delay signal?

A delay signal is a verbal or gestural signal that is given to a child to indicate that the teacher will soon deliver reinforcement contingent on the emission of socially acceptable behavior. That is, the delay signal informs the child that the activity that he/she is trying to escape is about to end or the item that he/she is trying to obtain is about to be delivered if she/he does not engage in challenging behavior. For Eric, who is escape motivated, the reinforcement is to escape from or termination of the task. In the example with Karen, whose challenging behavior is a function of her

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## **I. Teaching Requesting as a Replacement for Challenging Behaviors**

Some learners engage in challenging behaviors in order to obtain access to objects or events in their environment. For example, while grocery shopping, a learner may yell, cry and throw himself on the floor in order to gain access to a favorite snack item. Other learners, may engage in challenging behaviors in order to gain or maintain attention from others in their environment. Amy, for example, begins to pinch and hit the students sitting close to her in music class. In response, Amy's teacher moves her chair right next to Amy. At this point, Amy no longer acts aggressively towards her peers, but does enjoy having her teacher sitting close by. Learners may also exhibit challenging behaviors when placed in a difficult situation. Consider for example a learner, who while removing his outer clothing, is unable to unbutton the top button on his jacket. Instead of going to his teacher to request assistance, he begins to yell and frantically swing his arms, until someone notices his predicament. In each of these cases, a more functional means of requesting could act as a replacement for the challenging behaviors. This section delineates procedures for implementing requesting programs, including obtain or maintain attention, obtain assistance and obtain access to items/events, that address a variety of communicative functions (i.e., obtain access and escape/avoid).

### **1. Teaching Requests to Obtain or Maintain Attention**

#### **What is a request for attention?**

A request for attention is a communicative utterance emitted by a learner in order to indicate the desire to have an individual (e.g., parent, teacher, peer) attend to him or her. The learner may desire the individual's attention in order to emit another communicative act (e.g., request access to a set of headphones, request to take a break from an activity) or the learner may desire to socially interact with the individual. The amount of attention desired by a learner, may range from merely having the other person sitting next to them, to having the undivided attention of that person while engaged in a favorite activity. A learner may indicate this desire verbally (e.g., "I'd like someone to sit next to me") or by use of a graphic or gestural communication system. For example the learner may point to a card with the message "Please visit with me" printed on it. Other learners may activate a recorded message that says "Could someone please spend time with me?" Some

learners may manually sign "Come please" in order to communicate the desire for attention.

### **Who would benefit from being taught to request attention?**

A request for attention can be taught as a communicative replacement in addressing a variety of functions served by challenging behaviors. It can be taught as a replacement for attention motivated challenging behaviors, as well as for challenging behaviors that are associated with some situations that involve escape/avoidance motivated challenging behavior.

1. Obtain Attention Motivated: Consider for example, a young boy who begins to tantrum each time his parents attend to his baby sister. Another child may engage in challenging behaviors in order to gain the attention of his teacher.
2. Maintain Attention Motivated: A request for attention response may also be used by a learner who engages in challenging behavior as a means of avoiding the termination of an ongoing interaction. For example, after drawing a picture with the learner, the teacher begins to leave the art area. The learner responds by throwing the art materials onto the floor. This learner might be taught to point to a card with the message "Please spend more time with me" as a replacement for her challenging behaviors (e.g., throwing materials).
3. Escape Motivated: Some learners may be both attention motivated and escape motivated. Such learners may use a request for attention response as a means of escaping an undesirable activity. Consider for example, a learner who does not like to participate in coloring activities. She may begin to engage in challenging behaviors (e.g., yell and scream) so that staff will interact with her (e.g., sit next to her and speak to her) and as a result, she is not required to engage in the coloring activity. This learner would also benefit from being taught a request for attention response.

## How do I teach a learner to request to obtain attention?

### 1. Identify the instructional universe

Identifying the instructional universe for a request for attention response involves identifying the range of activities/environments where it is important for the learner to engage in the request for attention (referred to as a positive class of stimuli). It also entails identifying members of a negative class of stimuli; occasions where the learner should refrain from engaging in the request for attention. In addition, it entails identifying the full range of response forms that the learner may emit within these environments in order to communicate the desire to gain attention (See Table 1).

Table 1. Instructional universe for a request to obtain attention response.

Instructional Universe	Appropriate Response	Rationale for Response
<p><b>Positive Stimulus Class</b></p> <p>1. While sitting alone during playtime learner desires the attention from her teacher.</p> <p>2. While at home in T.V. room, learner desires her mother's attention.</p>	<p>1. Sign "Come play with me".</p> <p>2. Learner emits gesture symbolizing a favorite finger play.</p>	<p>1. Use of the sign will result in the interventionist quickly determining the learner's desire to gain attention.</p> <p>2. The production of a gesture symbolizing a favorite finger play results in parent's delivery of desired attention.</p>
<p><b>Negative Stimulus Class</b></p> <p>1. Learner is interacting with a number of peers.</p> <p>2. Learner is at home and parent is occupied (e.g., using the telephone).</p>	<p>1. Learner refrains from producing requesting attention.</p> <p>2. Learner refrains from requesting attention.</p>	<p>1. When attention is being provided, learner should refrain from producing the request for attention response.</p> <p>2. In situations where the attention can not be made available to the learner, he or she should refrain from producing the requesting response.</p>

## 2. Identify teaching examples

The following steps delineate procedures for identifying teaching examples to be used in replacing challenging behaviors with a request to obtain attention response.

### Step 1: Identify situations that serve as contexts for attention requests.

The following examples illustrate some situations that might serve as contexts for attention requests.

i. While engaged in a pleasurable activity the learner desires attention.

Some learners, although participating in a pleasurable activity, may desire to interact with others in their environment. In this case, the learner may engage in challenging behaviors so that an individual in their environment will attend to them just long enough to notice or comment on what she or he is doing (e.g., putting on a new jacket, or drawing a picture).

ii. The learner desires to join an ongoing activity

Upon noticing one or a group of individuals engaged in an activity, a learner may emit challenging behaviors as an overture to join an ongoing activity and thus obtain their attention. For example, while entering the play corner, Lisa notices that her peers are engaged in a game of "duck-duck-goose". The fact that her peers are not providing attention to her, results in her engagement in challenging behavior (aggression) in order to gain the attention of one or more of her peers.

iii. The learner requests attention in order to escape an ongoing activity

Some learners request attention in order to escape an ongoing activity. For example, Kim often becomes restless during group activities (e.g., music, calendar time). About three minutes into the activity, Kim would begin to engage in challenging behaviors (e.g., dart from her seat and run around the room). In response to her behavior, staff would chase her, bring her back to her seat, and sit next to her. As a result, Kim would refrain from engaging in challenging behavior for the remainder of the group activity. It soon became clear to Kim's interventionists that when

attention was added to an otherwise undesirable activity, Kim's challenging behavior would decelerate.

Step 2: Identify the range of teaching examples

Once situations that serve as contexts for attention requests have been identified, the interventionist should identify the full range of teaching examples. This entails identifying positive teaching examples, where the learner should engage in the request attention response as well as negative teaching examples, where the learner should refrain from engaging in the request attention response. In addition, examples should be identified where it is unclear whether or not the learner should emit the request for attention response.

Step 3: Conduct an analysis of the efficiency of the communicative replacement.

In order to ensure that the communicative replacement is efficient from the learner's perspective, it is essential for the interventionist to perform an analysis of the efficiency of the communicative response in relationship to the existing response (i.e., the challenging behavior). Table 2 has been provided in order to illustrate how one would go about analyzing each aspect of response efficiency when teaching a request for attention response to a learner who engages in challenging behaviors in order to obtain attention.

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Insert Table 2 about here  
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Step 4: Determine the point in an activity at which the learner is likely to desire attention

Direct observation should take place during times of the day when the learner is likely to exhibit challenging behaviors in order to request attention. However, depending on the learner, a variety of stimulus conditions may result in the occurrence of challenging behavior.

- Learners may engage in attention motivated challenging behavior in the presence of a small set of discrete events. For example, as soon as the learner enters the classroom, he or she engages in challenging behavior in order to obtain attention from adults in the room.
- Learners may engage in challenging behavior as soon as an individual's attention is diverted.
- Learners may participate in an activity for a brief amount of time (in the absence of attention), before engaging in challenging behavior in order to obtain attention.

There are two different options for determining the point at which the learner is likely to desire attention. The first option addresses learners who engage in challenging behaviors in response to discrete events. This option may also be implemented when the discrete event that occasions the desire to request attention is the diversion of an individual's attention away from the learner. The second option addresses learners who will participate in an activity for a brief amount of time before engaging in challenging behavior in order to obtain attention.

Option 1: Identifying discrete events that result in a learner engaging in challenging behavior to obtain attention

Some learners may engage in challenging behavior in response to one or more discrete events in their environment. For example, as soon as Kelly enters the classroom in the morning, she immediately begins to push things off of table tops in order to gain attention from adults in her environment. In these cases, it is important to observe the learner engaging in his or her daily routine over the course of several days, in order to identify the situations in which she or he is likely to desire attention. The Requesting Attention Observation Sheet (Discrete Events), [Form A] (See Figure 1) can be used to document whether the learner emitted attention motivated challenging behaviors while engaged in his or her daily routine across several days.

Fig. 1. Requesting Attention Observation Sheet (Discrete Event) - (Form A)

Date	Activity/ Time of Day	Antecedents	Person(s) to whom request was directed (If applicable)	Challenging Behavior

The following procedures indicate how to use the Requesting Attention Observation Sheet (Discrete Events) [Form A] in order to determine when a learner is likely to desire attention:

- 1) Observe the learner engaging in his or her daily routine across several days.
- 2) When a challenging behavior is emitted in order to acquire attention, document the time and the activity or time of day that the behavior occurred.
- 3) Describe the situation at hand and/or events that took place just prior to the occurrence of the challenging behavior (e.g., the learner just entered a room where participants were engaged in various activities, the learner entered work center in the room and no adult was stationed in that area).
- 4) If the behavior emitted to procure attention was directed towards a specific individual(s), document to whom the request for attention was directed (e.g., peer, assistant, teacher, therapist).
- 5) Identify the challenging behavior that was emitted by the learner.

For example, Fig. 2 illustrates the behaviors emitted by Kelly upon entering the classroom from the bus each morning and when entering the classroom when returning from gym. Across all four days, within both situations (coming from the bus and the gym), Kelly would begin to push things off of table tops. As Fig. 2

illustrates, each time the behavior occurred, the teacher and classroom assistants were attending to other children in the classroom.

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Insert Figure 2 about here  
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Option 2: Identifying the amount of time a learner will participate in an activity before desiring attention

Some learners may engage in an activity for a brief period of time before desiring attention. In these instances, direct observation should take place when the learner is engaged in the activities where it is likely that she or he will exhibit challenging behaviors in order to request attention. The observer can then document how long the learner engaged in the activity (e.g., free play, art, music) before emitting the challenging behavior. Documentation of the learner's behavior and the time that it was emitted will provide the interventionist with important information regarding:

- the types of behavior(s) that are emitted by the learner in order to procure attention.
- the length of time that the learner will participate in the activity before she or he will emit the identified behavior(s), referred to as the "critical time period".

The following procedures indicate how this information should be acquired. The Requesting Attention Observation Sheet (Critical Time) [Form B] can be used to record the information (See Figure 3).

Fig. 3. Requesting Attention Observation Sheet (Critical Time) - (Form B)

Date	Activity	Amount of time before behavior was emitted	Person to whom request was directed (If Applicable)	Challenging Behavior
		___ min. ___ sec.		
		___ min. ___ sec.		
		___ min. ___ sec.		
		___ min. ___ sec.		
		___ min. ___ sec.		

- 1) Time the learner from the moment she or he starts the activity until she or he begins to indicate the desire to obtain attention (note: the amount of time that the learner remains engaged in the task can be measured by watching a clock in the room, counting seconds quietly to your self or by using a stop watch).
- 2) Record this time interval over several occurrences of the activity.
- 3) Identify the shortest amount of time that the learner will participate without emitting the behavior.
- 4) In order to determine the critical time period, reduce the shortest amount of time that the learner remained in the activity prior to desiring attention to an amount that will ensure the absence of challenging behavior (Note: the exact amount of seconds/minutes that the least amount of time should be reduced is based on individual learner differences).

For example, Fig. 4 illustrates the behaviors emitted by Kim while engaged in an afternoon group activity. Across all four days, she would participate in the activity for at least 4 minutes and 0 seconds before she would dart from her seat and run around the room. Therefore in order to calculate her critical time period, her interventionist subtracted 20 seconds from 4 minutes and 0 seconds. Based on the observation information, over 4 days, Kim was not likely

to engage in challenging behavior within the first 3 minutes and 40 seconds (the designated critical time period).

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Insert Figure 4 about here  
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### **3. Begin instruction**

Step 1: Order teaching examples to ensure generalized and conditional use of the request to obtain attention response.

Instruction should begin with both positive and negative teaching examples. Initially these examples should be maximally discriminable. For example, while sitting between two peers during a group activity, Kim could be instructed to emit a request for attention response. On occasions where Kim is next to an adult in the classroom, she is taught not to engage in her request for attention response. Across opportunities, the teaching examples can become less and less discriminable, making it less obvious to the learner whether or not she or he should engage in the response. For example, Kim can be provided with opportunities where an adult is sitting only one seat away from Kim.

Step 2: Prompt the learner to engage in the request attention response

Once the point in the activity where the learner is likely to engage in challenging behavior has been identified, the learner can be prompted to engage in the request for attention response before the challenging behavior is emitted.

For example, Kim remains engaged in the group activity for up to 4 minutes and 0 seconds, before she darts from her seat and begins to run around the room. The interventionist should prompt Kim to emit the request for assistance response, before the critical time period (e.g., 3 minutes and 40 seconds) has elapsed. This will allow the prompt to be delivered in absence of the challenging behavior.

Direct observation of learner Kelly has revealed that she has a tendency to engage in challenging behavior upon entering the classroom, when the teacher's and

assistant's attention is directed towards her peers. Her interventionists have therefore decided to prompt her to emit a request for assistance response (point to a graphic symbol "Come visit with me") as she enters the classroom. For example, as soon as the teacher or assistant sees Kelly walking toward the door he or she says "Kelly if you would like me to visit with you show me your symbol".

When prompting a learner to engage in a request for attention response, the interventionist should consider the following:

a. Avoid prompting the learner following the occurrence of the challenging behavior.

It is important for the interventionist to avoid prompting the learner to perform the new response immediately after producing the challenging behavior. This could lead to the learner chaining the two responses. For example, each time the learner desires attention, she begins to yell and cry. If each time the learner engages in this behavior (e.g., yelling and crying) the interventionist prompts her to engage in the communicative response (e.g., Point to a card with the message "Please visit with me" on it) it is likely that the learner will begin to consistently perform both of these behaviors (yelling and pointing to the message); or, to first engage in the challenging behavior and if not immediately reinforced emit the desired communicative alternative as part of the response chain.

If the learner emits the challenging behavior before the desired response is produced, the interventionist may follow either one or a combination of the following procedures:

- i. The interventionist may refrain from providing attention contingent on the emission of challenging behavior. Therefore, immediately following the challenging behavior, the interventionist may terminate the requesting opportunity. This would entail refraining from delivering the desired attention. The interventionist should then insert a wait time, before she or he provides the learner with another opportunity to request the desired attention. The length of time that the interventionist waits before providing the learner with another opportunity is determined on an individualized

basis. However, the interventionist would be certain to wait until the challenging behavior had subsided before providing another opportunity for the learner to request attention.

Consider Kim for example. At group time, Kim is being taught to request attention. After participating in the group activity for a specified amount of time (just over three minutes), Kim may raise her hand and ask her teacher to visit with her. Sometimes, Kim will dart from her seat before the specified amount of time has lapsed. When this happens, her classroom assistant escorts Kim back to the group and as soon as Kim is seated she is given another opportunity to request her teacher's attention.

- ii. Sometimes, the interventionist may feel that it is necessary to deliver attention following the emission of challenging behavior (e.g., the learner behavior is becoming disruptive to others in the environment). In this case, it is important to differentiate for the learner that the qualitative differences between attention delivered contingent on the production of a socially acceptable response compared to minimal but necessary attention delivered to interrupt serious challenging behavior.

Consider Kelly for example. Occasionally, Kelly will refrain from using her symbol to request attention, and will begin to push materials off of tables in order to obtain her teacher's attention. On some occasions Kelly's teacher will prevent her from pushing materials (e.g., when it is something that will result in damage to materials). However, she does not interact with her in any way (e.g., look at her or talk to her). On other occasions, when Kelly points to her line drawn symbol to gain attention, her teacher goes to her, looks directly at her and engages Kelly in a topic of conversation that he considers very motivating (e.g., activities she participated in at home the evening before or during gym).

c. Implementation of a two-person prompting procedure.

Prompting learners to request attention, often becomes problematic in that in order to prompt the learner, she or he is inadvertently receiving attention, therefore may have no reason to request it. Implementation of a two-person prompting strategy can help to alleviate this problem. This strategy involves

one person prompting the learner to gain the attention of another individual who is at a distance, or not attending to the learner. In order to prompt Kim to engage in the request for attention response, her classroom staff could implement a two-person prompting procedure by having an assistant in the classroom prompt her to raise her hand to gain the teacher's attention. Once the teacher is looking, Kim can again be prompted to ask her teacher to "Please visit with me". Across teaching opportunities, the prompts delivered by the assistant can be slowly faded.

### **How do I keep track of the learner's progress?**

In order to determine whether or not the request for attention intervention is successful in decreasing a learner's challenging behaviors, it is important to monitor the learner's performance. The Requesting Attention Progress Sheet (Discrete Events) [Form C] may be used in order to document progress. Kelly's educational team decided that she would benefit from a more socially appropriate means of requesting attention. As a result, they decided that she would be prompted to point to the graphic symbol "Come visit with me" upon entering the classroom. Verbal prompts were found to be the most successful with Kelly. Initially, as Figure 5 illustrates Kelly required a full verbal prompt "If you would like me to come visit with you Kelly, point to your symbol" in order to produce the request for attention response. Across teaching opportunities, only a partial verbal prompt was delivered (e.g., "Kelly show me what you would like."), and on the last two opportunities recorded on the progress sheet, Kelly did not require any prompts.

The Requesting Attention Progress Sheet (Critical Time) [Form D] may also be used in order to document learner progress. Consider Kim for example. Kim's educational team decided that the most efficient means for her to request attention would be to raise her hand and ask her teacher to "Please visit with me". Verbal prompts were found to be the most successful with Kim. Therefore, Kim was prompted to raise her hand at exactly 3 minutes and 40 seconds (the "critical time period") into the afternoon group activity. Figure 6 displays Kim's progress over 2 weeks. Over teaching opportunities, the critical time period in which Kim was prompted to request her teacher's attention was extended and the level or prompt was faded from a full prompt to a partial prompt.

### How do I know if the program is working?

In order to determine if the program is working, it will be necessary to examine the learner's progress over a period of time. This will be accomplished by graphically displaying the information documented on the request attention progress sheet. Figure 7 illustrates the information from Kim's progress sheet.

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Insert Figure 7 about here  
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### Additional Considerations

#### Special considerations when using graphic mode communication to request attention

One particular consideration for learners who use a graphic mode nonelectronic communication system (e.g., book, board, wallet), is that the learner must be sure that the communicative partner is looking at his or her communication display before she or he makes an explicit request for a particular action on the part of the partner. In some instances attention is the goal of the communicative episode. For example, a learner points to a graphic symbol "Come visit with me" in order to obtain attention from the communicative partner. The single act of emitting the request attention response results in the desired attention. In other instances, some other function is the goal. For example, the learner may engage in the request for attention response (e.g., signs "Come here please") so that he can then request access to a preferred activity or item. Therefore, it may be necessary to teach the learner to request attention within a chain of two responses. This would entail, teaching the learner to first gain his or her partner's attention in order to communicate (e.g., approach his or her partner and tap their shoulder). Once the listener is in close proximity the learner can then complete the chain by producing a more explicit communicative utterance (e.g., request access to a preferred item, request to take a break from an ongoing activity).

When provided with an electronic aid that has speech output, it is often not necessary for him or her to first gain the attention of the communicative partner. It is likely that the message being emitted via the speech output will gain the partner's attention. If a learner does not have an electronic communication aid, one may also use a **tape**

**recorded message** to request attention. Recording the message on a loop tape, will provide a means of communicating the message to individuals who are not looking at, or situated near the learner. For example, if the learner has her tape player with her during lunch time in the cafeteria, she can activate the message "I'd like you to sit and talk with me please", so that friends sitting at another table can hear the request.

Procedures to be followed when the learner fails to discriminate between situations where she or he should and should not engage in the requesting attention response

One purpose of applying a general case analysis when implementing a request for attention program is to teach the learner to discriminate between situations where she or he should and should not engage in the communicative behavior. However, sometimes a learner may request attention, when she or he should have refrained from emitting the communicative response. Consider for example, a learner who frequently requests the attention of classroom staff. At times this behavior can become disruptive to ongoing activities. Other learners may emit an appropriate requesting response (e.g. point to a graphic symbol) but if not immediately provided attention may begin to engage in challenging behaviors. A possible solution to these types of dilemmas, is to incorporate a "tolerance for delay program" into the request for attention program. A tolerance for delay program teaches the learner that in a brief period of time she or he will be given access to the desired attention. Refer to the Tolerance for Delay/Safety Signal portion of this module for more elaborate procedures.

Table 2. An example of a Response Efficiency Analysis for a learner being taught to request attention as a communicative replacement for aggressive behavior which serves the function of obtaining attention.

	<b>Challenging Behavior</b>	<b>An Inefficient Response</b>	<b>An Efficient Response</b>
<b>Response Effort</b>	<p>Lisa often acts aggressively in order to acquire attention from others in her environment. She jumps from her seat, approaches others, yelling and frantically waving her hands and arms.</p>	<p>An inefficient communicative replacement would be for Lisa to raise her hand and wait for an adult to notice before she asked "Will someone please visit with me?"</p>	<p>An efficient communicative replacement from Lisa's perspective would be to raise her hand while simultaneously asking "Will someone visit with me please?"</p>
<b>Rate of Reinforcement</b>	<p>Following Lisa's engagement in aggressive behavior in order to acquire attention, her teacher, classroom assistant and her peers all interact with her at varying times during the remainder of the activity.</p>	<p>It would be inefficient from Lisa's perspective if when she emitted her communicative replacement, only the classroom assistant responded to her request for attention, while her peers and teacher did not.</p>	<p>When Lisa emits her communicative alternative (i.e., asks someone to visit with her) her teacher, classroom assistant and peers all respond by interacting with her at varying times during the remainder of the activity.</p>
<b>Quality of Reinforcement</b>	<p>After Lisa engages in aggressive behavior in order to acquire attention, her classroom teacher brings her to a quiet corner of the room and gently explains to her why she should not act "that way" in school. The teacher then smiles and puts her arm around Lisa as they join the group.</p>	<p>It would be inefficient from Lisa's perspective if following her engagement in the communicative replacement, her teacher merely stood next to her while continuing to interact with other individuals in the class.</p>	<p>Following Lisa's request for someone to visit with her, Lisa's teacher is sure to interact with her apart from the other students speaking to her in a soft, gentle voice.</p>
<b>Immediacy of Reinforcement</b>	<p>After Lisa engages in aggressive behavior, her teacher or classroom assistant stop what they are doing and immediately interact her.</p>	<p>Following Lisa's request for attention, her teacher told her to wait a few minutes while she finished what she was doing, and sometimes does not honor the request.</p>	<p>After Lisa raises her hand and requests someone to visit with her, her teacher stops what she is doing and immediately approaches Lisa.</p>



**Figure 2      Requesting Attention Observation Sheet      Form A**  
**(Discrete Events)**

Student Name:     Kelly    

Observer:     Kathleen    

**Direction:**

Observe the learner over the course of the day and note:

- a) The date
- b) Activity/time of day
- c) Antecedents (events that took place prior to the challenging behavior)
- d) To whom the request was directed (if applicable)
- e) The challenging behavior emitted by the learner

Date	Activity/ Time of Day	Antecedents	Person to whom request was directed (If applicable)	Challenging Behavior
10/1	Entering class from bus	Teacher and Assistant interacting with other children	Teacher and Assistant	Pushed materials off table
10/1	Returning from gym	Teacher and Assistant interacting with other children	Teacher and Assistant	Pushed materials off table
10/2	Entering class from bus	Teacher and Assistant interacting with other children	Teacher and Assistant	Pushed materials off table
10/2	Returning from gym	Teacher and Assistant interacting with other children	Teacher and Assistant	Pushed materials off table
10/3	Entering class from bus	Teacher and Assistant interacting with other children	Teacher and Assistant	Pushed materials off table
10/3	Returning from gym	Teacher and Assistant interacting with other children	Teacher and Assistant	Pushed materials off table
10/4	Entering class from bus	Teacher and Assistant interacting with other children	Teacher and Assistant	Pushed materials off table
10/4	Returning from gym	Teacher and Assistant interacting with other children	Teacher and Assistant	Pushed materials off table

Form B

**Requesting Attention Observation Sheet**  
**(Critical Time)**

Student Name: \_\_\_\_\_

Observer: \_\_\_\_\_

**Directions** For each opportunity:

- a) write the date
- b) note the activity
- c) write down the amount of time that elapsed before the challenging behavior was emitted
- d) note the challenging behavior emitted by the learner

Date	Activity	Amount of time before behavior was emitted	Person to whom request was directed (If applicable)	Challenging Behavior
		___ min. ___ sec		
		___ min. ___ sec		
		___ min. ___ sec.		
		___ min. ___ sec		
		___ min. ___ sec.		
		___ min. ___ sec		
		___ min. ___ sec.		
		___ min. ___ sec.		
		___ min. ___ sec.		
		___ min. ___ sec.		
		___ min. ___ sec.		
		___ min. ___ sec.		
		___ min. ___ sec.		
		___ min. ___ sec.		
		___ min. ___ sec.		

**Figure 4**      **Requesting Attention Observation Sheet Form B**  
**(Critical Time)**

Student Name: Kim

Observer: Kathleen

**Directions** For each opportunity:

- a) write the date
- b) note the activity
- c) write down the amount of time that elapsed before the challenging behavior was emitted
- d) note the challenging behavior emitted by the learner

Date	Activity	Amount of time before behavior was emitted	Person to whom request was directed (if applicable)	Challenging Behavior
10/1	Afternoon Group	<u>4</u> min. <u>10</u> sec.	Teacher	Darted from seat
10/2	Afternoon Group	<u>4</u> min. <u>5</u> sec.	Teacher	Darted from seat
10/3	Afternoon Group	<u>4</u> min. <u>30</u> sec.	Teacher	Darted from seat
10/4	Afternoon Group	<u>4</u> min. <u>0</u> sec.	Teacher	Darted from seat
		___ min. ___ sec.		
		___ min. ___ sec.		
		___ min. ___ sec.		
		___ min. ___ sec.		
		___ min. ___ sec.		
		___ min. ___ sec.		
		___ min. ___ sec.		
		___ min. ___ sec.		
		___ min. ___ sec.		

**Form C**

**Requesting Attention Progress Sheet**  
**(Discrete Events)**

Student Name: \_\_\_\_\_

Observer: \_\_\_\_\_

Challenging Behavior: \_\_\_\_\_

**Directions:**

For each opportunity:

- a) Note the date
- b) Note the point at which the learner should emit the request attention response
- c) If the learner emits the request attention response, circle the level of prompt delivered  
 F = Full prompt  
 P = Partial prompt  
 N = No prompt
- e) Place an "X" on the line if the target behavior was emitted.

Prompt Method: Circle the prompting method(s) used

P=Physical prompt (e.g. placed the learner's hand on the symbol)

G=Gestural prompt (e.g. point to the symbol)

V=Verbal prompt (e.g. "point to your symbol")

N=No prompt necessary, spontaneous

Date	Point at which learner should emit the request attention response	Emitted Requesting Response Level of prompt	Challenging Behavior
		F P N	_____
		F P N	_____
		F P N	_____
		F P N	_____
		F P N	_____
		F P N	_____
		F P N	_____
		F P N	_____
		F P N	_____
		F P N	_____
		F P N	_____



Figure 5

**Requesting Attention Progress Sheet**  
**(Discrete Events)**

Form C

Student Name: KellyObserver: CarrieChallenging Behavior: Pushes materials off table

Prompt Method: Circle the prompting method(s) used

P=Physical prompt (e.g. placed the learner's hand on the symbol)

G=Gestural prompt (e.g. point to the symbol)

V=Verbal prompt (e.g. "point to your symbol")

N=No prompt necessary, spontaneous

**Directions:**

For each opportunity:

- Note the date
- Note the point at which the learner should emit the request attention response
- If the learner emits the request attention response, circle the level of prompt delivered  
F = Full prompt  
P = Partial prompt  
N = No prompt
- Place an "X" on the line if the target behavior was emitted.

Date	Point at which learner should emit the request attention response	Emitted Requesting Response			Challenging Behavior
		F	P	N	
10/7	Entering class from bus	(F)	P	N	_____
10/7	Entering class while returning from gym	(F)	P	N	_____
10/8	Entering class from bus	(F)	P	N	_____
10/8	Entering class while returning from gym	(F)	P	N	_____
10/9	Entering class from bus	(F)	P	N	_____
10/9	Entering class while returning from gym	F	(P)	N	_____
10/10	Entering class from bus	F	(P)	N	_____
10/10	Entering class while returning from gym	F	(P)	N	_____
10/11	Entering class from bus	F	P	(N)	_____
10/11	Entering class while returning from gym	F	P	(N)	_____
		F	P	N	_____

**Form D**

**Request Attention Progress Sheet**  
**(Critical Time)**

Student Name: \_\_\_\_\_  
 Observer: \_\_\_\_\_  
 Challenging Behavior: \_\_\_\_\_

**Directions:**

For each opportunity:

- a) write the date
- b) write the critical time period
- c) if the learner emits the request attention response, circle the level of prompt delivered  
     F = Full prompt  
     P = Partial prompt  
     N = No prompt
- d) place an "X" on the line if the target behavior was emitted (e.g., tantrumming)

Prompt Method: Circle the prompting method(s) used

- P=Physical prompt (e.g. placed the learner's hand on the symbol)
- G=Gestural prompt (e.g. point to the symbol)
- V=Verbal prompt (e.g. "point to your symbol")
- N=No prompt necessary, spontaneous

Date	Activity	Critical Time Period	Emitted Rejecting Response			Challenging Behavior Emitted
			F	P	N	
		__min. __sec.	F	P	N	
		__min. __sec.	F	P	N	
		__min. __sec.	F	P	N	
		__min. __sec.	F	P	N	
		__min. __sec.	F	P	N	
		__min. __sec.	F	P	N	
		__min. __sec.	F	P	N	
		__min. __sec.	F	P	N	
		__min. __sec.	F	P	N	
		__min. __sec.	F	P	N	

Figure 6

## Request Attention Progress Sheet

### Critical Time

Form D

Student Name: Kim**Directions:**Observer: Kathleen

For each opportunity:

Challenging Behavior: Dart from seat and run around the room

- a) write the date
- b) write the critical time period
- c) if the learner emits the request attention response, circle the level of prompt delivered  
F = Full prompt  
P = Partial prompt  
N = No prompt
- d) place an "X" on the line if the target behavior was emitted (e.g., tantrumming)

**Prompt Method:** Circle the prompting method(s) used

P=Physical prompt (e.g. placed the learner's hand on the symbol)

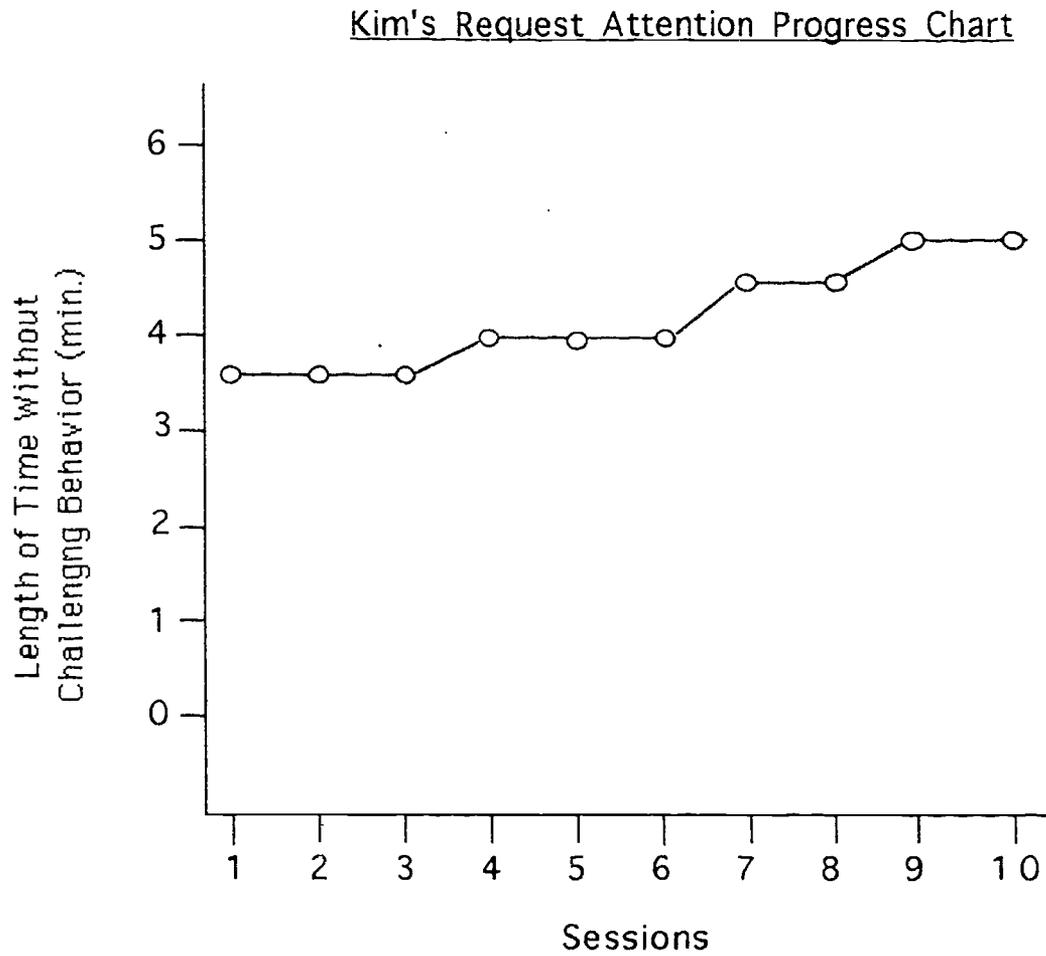
G=Gestural prompt (e.g. point to the symbol)

V=Verbal prompt (e.g. "point to your symbol")

N=No prompt necessary, spontaneous

Date	Activity	Critical Time Period	Emitted Rejecting Response			Behavior Emitted
			F	P	N	
10/7	Afternoon group	3 min. 40 sec.	(F)	P	N	—
10/8	" "	3 min. 40 sec.	(F)	P	N	—
10/9	" "	3 min. 40 sec.	(F)	P	N	—
10/10	" "	4 min. 0 sec.	(F)	P	N	—
10/11	" "	4 min. 0 sec.	(F)	P	N	—
10/14	" "	4 min. 0 sec.	(F)	P	N	—
10/15	" "	4 min. 30 sec.	(F)	P	N	—
10/16	" "	4 min. 30 sec.	F	(P)	N	—
10/17	" "	5 min. 0 sec.	F	(P)	N	—
10/18	" "	5 min. 0 sec.	F	(P)	N	—
		__ min. __ sec.	F	P	N	—

Figure 7



## 2. Teaching Requests to Obtain Assistance

### **What is a request for assistance?**

A request for assistance is a communicative utterance produced by the learner in order to indicate the desire to have an individual to provide them with aid while they are engaged in a task. For example, a learner may require assistance in removing his/her clothing, manipulating materials (e.g., scissors, glue bottles or jars) or gaining access to food items (e.g., opening a wrapper, cabinet or refrigerator).

### **Who would benefit from being taught to request assistance?**

The request assistance response can be taught as a communicative replacement for a variety of functions of challenging behaviors.

1. Access Motivated: Situations in which an individual requires assistance in order to gain access to a favorite item or activity. For example, a young child may request help from an adult when trying to loosen the top of a peanut butter jar. Another learner may need assistance gaining access to a favorite toy placed on a high shelf. Each of these learners can be taught a more functional means of requesting assistance (e.g., pointing to a graphic symbol or signing "help please").
2. Escape Motivated
  - a. Difficult task Situations in which an individual requires assistance to speed escape from a difficult task. Consider Jimmy, who tends to stop working when he reaches a step in an activity that he finds difficult. Upon stopping the activity Jimmy becomes restless and starts to bother (e.g., teases, pinches) the children sitting near by. A solution is to teach Jimmy to request assistance when he reaches the step in the activity that he cannot complete independently. For example, Jimmy is taught to point to a black and white line drawing symbolizing "help" in order to request assistance when he reaches the step in the activity that he cannot complete independently.

## How do I teach a learner to request assistance?

### 1. Identify the instructional universe

Identifying the instructional universe for a request for assistance response involves identifying the range of activities/environments where it is important for the learner to engage in the request for assistance response (referred to as a positive class of stimuli). Identifying the instructional universe also entails identifying of a negative class of stimuli; occasions where the learner should refrain from engaging in the request for assistance response. In addition, it entails identifying the full range of responses that the learner may emit within these environments in order to communicate the desire to acquire assistance (See Table 1).

Table 1. Instructional universe for a request to obtain assistance response.

Instructional Universe	Appropriate Response	Rationale for Response
<p><b>Positive Stimulus Class</b></p> <p>1. The learner encounters a difficult task.</p> <p>2. While at home in the presence of family members the learner requires assistance in order to gain access to a preferred item.</p>	<p>1. Point to the graphic symbol "Help".</p> <p>2. Learner signs "help".</p>	<p>1. Use of the graphic symbol will result in the interventionist determining the learner's desire to obtain assistance.</p> <p>2. The production of the sign for "Help" results in parent's delivery of desired assistance (due to parents comprehension of signs).</p>
<p><b>Negative Stimulus Class</b></p> <p>1. Learner encounters a difficult task in the presence of an adult who is occupied.</p>	<p>1. Learner refrains from requesting assistance and refrains from attempting to complete the task</p>	<p>1. In situations where needed assistance is can not be provided to the learner, he or she should refrain from producing the requesting response.</p>

### 2. Identify teaching examples

The following steps delineate procedures for identifying teaching examples to be used in replacing challenging behaviors with a request to obtain assistance response.

Step 1: Identify situations that serve as contexts for assistance requests

The situations that one might consider as contexts for assistance requests are identical to the scenarios described in the section "Who would benefit from being taught to request assistance?":

- i. The learner requires assistance in order to obtain access to desired objects/events
  
- ii. While engaged in a difficult task, the learner requires assistance.

Step 2: Identify the range of teaching examples

Once situations that serve as contexts for assistance requests have been identified, the interventionist should identify the full range of teaching examples. This entails identifying positive teaching examples, where the learner should engage in the request assistance response as well as negative teaching examples, where the learner should refrain from engaging in the request assistance response. In addition, examples should be identified where it is unclear whether or not the learner should emit the request for assistance response.

Step 3: Conduct an analysis of the efficiency of the communicative replacement.

In order to ensure that the communicative replacement is efficient from the learner's perspective, it is essential for the interventionist to perform an analysis of the efficiency of the communicative response in relationship to the existing response (i.e., the challenging behavior). Table 2 has been provided in order to illustrate how one would go about analyzing each aspect of response efficiency when teaching a request to obtain assistance response to a learner who engages in challenging behaviors in order to obtain assistance in the presence of preferred items.

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Insert Table 2 about here.  
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Step 4: Determine the point in the activity at which the learner is likely to desire assistance

Direct observation of the learner while engaged in a variety of activities will help the interventionist identify the activities and/or the components of an activity that require assistance from another individual in their environment. One way to do this, is to task analyze the activity and document whether or not the learner is able or willing to engage in each step independently Request Assistance Observation Sheet/Task Analysis [See Form A]. In this example, Tim was observed during lunch time. As he empties his lunch box, the interventionist noted the steps in the process that Tim was able to do independently and at what point he was in need of assistance. Figure 1. reveals that Tim is able to perform each step in the lunch preparation routine independently until it comes time to open his milk container. At this point in the activity, Tim begins to tantrum (yell and cry).

-----  
Insert Fig. 1 about here.  
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**3. Begin instruction**

Step 1: Order teaching examples to ensure generalized and conditional use of the request to obtain assistance response.

Instruction should begin with both positive and negative teaching examples. Initially these examples should be maximally discriminable. For example, during play time, the learner's favorite toy can be placed out of his or her reach. On this occasion, the learner should be instructed to produce a request for assistance. On occasions where the learner's favorite toy is placed on the table directly in front of him or her, she or he should be taught not to engage in a request for assistance. Across opportunities, the teaching examples can become less and less discriminable, making it less obvious to the learner whether or not she or he should engage in the response. For example, the toy may be placed within the learner's reach but in front of a peer sitting at the table.

## Step 2: Prompt the learner to engage in the request assistance response

Upon reaching the point in the activity where it is likely that the learner will require assistance, she or he should be prompted to emit the request for assistance response. A two-person prompting procedure may be implemented (See previous section of this module) or the learner may be prompted by the same individual who will be providing the assistance. For example, immediately before Jimmy reaches a difficult step in his art activity (e.g., tasks that require fine motor skills), his teacher could say "Jimmy, if you need help, just ask for it". The teacher could then prompt the learner to touch the "help" symbol. Tim, a learner who requires assistance to gain access to desired food/drink items, could be prompted to request assistance immediately (e.g., sign "help") following his attempt to open the package (e.g., milk container). Over teaching opportunities these prompts could be faded, until the learner is independently requesting assistance.

**Note:** The interventionist should be sure not prompt the learner to perform the new response immediately following the occurrence of the challenging behavior. This could lead to the learner chaining the two responses. For example, each time a learner desires assistance, she begins to throw materials onto the floor. If each time the learner engages in this behavior (e.g., throwing materials) the interventionist prompts her to engage in the communicative response (e.g., Sign "Help please"), it is likely that the learner will begin to consistently perform both of these behaviors (throwing materials and signing help). Refer to Step 5 of the previous section (Teaching a Request for Attention Response ) for information regarding procedures to follow if the learner emits the challenging behavior before the desired response is produced.

### **How do I keep track of the Learner's progress?**

In order to determine whether or not the request for assistance intervention is successful in decreasing a learner's challenging behaviors, it is important to monitor the learner's performance. The Request Assistance Progress Sheet [Form B] may be used in order to document learner progress. Consider Tim for example. His educational team decided that the most efficient means for him to request assistance would be to sign "Help please". Physical prompts were found to be the most successful with Tim. Therefore, Tim was prompted to sign "Help please" just

as he was about to open his milk container (the step in his lunch preparation sequence in which he required assistance).

### **How do I know if the program is working?**

In order to determine if the program is working, it will be necessary to examine the learner's progress over a period of time. This will be accomplished using the information from the Request Assistance Progress Sheet. Figure 2 provides progress information regarding Tim's performance. Across eleven days of intervention, Tim went from requiring a full physical prompt to a partial physical prompt in order to request assistance. On days nine, ten and eleven, Timmy independently requested assistance. He did not engage in challenging behavior on any of the seven opportunities.

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Insert Fig. 2 about here.  
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### **Additional Considerations**

#### What happens as the learner becomes increasingly more competent in performing a task?

Some learners will become increasingly more competent in performing a task. In this situation, it may not be appropriate for a learner to continue to request assistance. If the learner was using a request assistance response in order to replace challenging behaviors that served another function (e.g., to obtain attention, or to escape a task) the requesting assistance response may be replaced by a response that more closely matches the communicative function which it is meant to replace.

Consider Ellie for example. Initially, she was not able to put on her outer clothing independently. As a result, she would begin to tantrum each time she encountered a difficult aspect of dressing (e.g., zippering her jacket, putting on her boots, etc.). It was decided that she would be taught a request assistance response (i.e., say "Help please"). Over time, Ellie began to enjoy the attention she received while dressing each day and although she become proficient at the dressing task, continued to request assistance in order to obtain the attention of her teacher. It was then decided to teach Ellie an alternative response, such as "Look

at me please", in order to gain her teacher's attention rather than continue to request assistance.

Table \_\_\_\_ An example of a Response Efficiency Analysis for a learner being taught to request assistance as a communicative replacement for a challenging behavior (self-injury) that serves the function of obtaining assistance.

	<b>Challenging Behavior</b>	<b>An Inefficient Response</b>	<b>An Efficient Response</b>
<b>Response Effort</b>	When Jimmy encounters a difficult step in a task he begins to violently hit himself in the face.	An inefficient communicative replacement for Jimmy might be to have to first locate his communication book, turn to the appropriate page and then show it to an adult in his environment.	An efficient communicative replacement from Jimmy's perspective would be to emit the sign for "help" immediately upon encountering the difficult step in the task.
<b>Rate of Reinforcement</b>	Following Jimmy's engagement in face hitting in order to acquire assistance, his teacher and the classroom assistant approach him a number of times throughout the remainder of the activity, to make sure that he is no longer experiencing difficulties.	It would be inefficient from Jimmy's perspective if when he emitted his communicative replacement, only the classroom assistant responds to his request for assistance, and does so only once during the remainder of the activity.	When Jimmy emits his communicative alternative (i.e., signs "help") his teacher and classroom assistant each approach him a number of times during the remainder of the activity to ensure that he is not experiencing any more difficulties.
<b>Quality of Reinforcement</b>	After Jimmy engages in self-injurious behavior in order to acquire assistance, his teacher or classroom assistant help him with not only the difficult step in the activity but with various other aspects of the activity (e.g., putting materials away).	It would be inefficient from Jimmy's perspective, if after he emits the sign for "help", his teacher merely helps him with the step at hand and offers no additional assistance.	Following Jimmy's request for help, his teacher and classroom assistant are sure to offer assistance with more than one aspect of the task.
<b>Immediacy of Reinforcement</b>	When Jimmy engages in face hitting his teacher or classroom assistant immediately go to him to see what difficulty he has encountered.	Following Jimmy's request for assistance, his teacher told him to wait a few minutes while she finished what she was doing, and sometimes became distracted and did not honor the request.	Jimmy's communicative replacement would likely be efficient from his perspective if his teacher or classroom assistant immediately approached him upon seeing him sign "help".

## Form A Request Assistance Observation Sheet Task Analysis

Student Name: \_\_\_\_\_

Date: \_\_\_\_\_

Activity: \_\_\_\_\_

Observer: \_\_\_\_\_

Challenging Behavior: \_\_\_\_\_

**Directions:**

- a) Write each step in the activity
- b) If the learner performed the step independently, put an "X" in the corresponding column
- c) If the learner engaged in challenging behaviors place an "X" in the corresponding column
- d) Provide a description of the challenging behavior.

	Step in the Activity	Performed the Step Independently	Engaged in Challenging Behavior	Challenging Behavior
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

Figure 1

Form A

## Request Assistance Observation Sheet Task Analysis

Student Name: Tim

Date: 9/7

Activity: Lunch

Observer: Kathleen

Challenging Behavior: Tantrum

**Directions:**

- a) Write each step in the activity
- b) If the learner performed the step independently, put an "X" in the corresponding column
- c) If the learner engaged in challenging behaviors place an "X" in the corresponding column
- d) Provide a description of the challenging behavior.

	Step in the Activity	Performed the Step Independently	Engaged in Challenging Behavior	Description of Challenging Behavior
1	<i>Opens lunch box</i>	X		
2	<i>Removes sandwich</i>	X		
3	<i>Removes snack</i>	X		
4	<i>Removes milk container</i>	X		
5	<i>Opens sandwich rapper</i>	X		
6	<i>Opens milk container</i>		X	<i>Tantrum</i>
7	<i>Opens snack rapper</i>	X		
8	<i>Eats lunch</i>	X		
9	<i>Cleans up</i>	X		
10				
11				
12				



Fig 2

## Request Assistance Progress Sheet

Form B

Student Name: Timmy

Activity: Lunch Preparation

Observer: Kathleen

Challenging Behavior: Tantrum

**Directions:**

For each opportunity:

- a) write the date
- b) note the step in the activity where the learner is likely to request assistance
- c) if the learner emits the request assistance response, circle the level of prompt delivered  
 F = Full prompt  
 P = Partial prompt  
 N = No prompt
- d) place an "X" on the line if the target behavior was emitted (e.g., tantrumming)

Prompt Method: Circle the prompting method(s) used

Physical prompt (e.g. placed the learner's hand on the symbol)

G=Gestural prompt (e.g. point to the symbol)

V=Verbal prompt (e.g. "point to your symbol")

N=No prompt necessary, spontaneous

Date	Step in the Activity where difficulty arises	Emitted Request for Assistance Response	Engaged in Challenging Behavior
9/10	opening milk	(F) P N	—
9/11	opening milk	(F) P N	—
9/12	opening milk	(F) P N	—
9/13	opening milk	(F) P N	—
9/14	opening milk	(F) P N	—
9/15	opening milk	F (P) N	—
9/16	opening milk	F (P) N	—
9/17	opening milk	F (P) N	—
9/18	opening milk	F P (N)	—
9/19	opening milk	F P (N)	—
9/20	opening milk	F P (N)	—
		F P N	—
		F P N	—

### 3. Teaching Requests for Items/Events

#### **What is a request for an item/event?**

Requesting an item/event indicates the desire to gain or maintain access to a desired object or activity. A learner may indicate this desire verbally (e.g., "May I have my radio please"), graphically (Point to a photograph of the radio), or gesturally (sign "Radio").

#### **Who would benefit from being taught to request items/events?**

A variety of learners who engage in challenging behaviors would benefit from being taught to request items/events. The request for items/events response can be taught as a communicative replacement for a variety of functions of challenging behaviors.

1. Access Motivated: Learners who engage in challenging behaviors in order to gain access to items or events in their environment, would benefit from being taught to request these items or events (assuming that access is permissible). For example, Larry, who does not have a socially acceptable of asking for food, instead bangs his head on his desk when he is hungry. Upon seeing him engage in this behavior, and noticing that it is getting close to lunch time, his care givers offer him something to eat. Other learners may have a favorite object (e.g., toy) and may engage in challenging behaviors when this object is not available. For example, Marie's favorite toy is a musical bunny. Many times during the day Marie looks for her toy. If she does not see the bunny, she immediately begins to tantrum. If given a means to request, it is likely that these learners would refrain from engaging in challenging behaviors in order to acquire the desired object.

2. Maintain Interaction/Contact Motivated (Attention Motivated)

Some learners engage in challenging behaviors in order to continue an interaction or event. For example, Denise enjoys interacting with Janis, another learner in her class. Denise does not engage in challenging behaviors while she and the Janis are participating in an activity. However, when the activity is about to terminate (i.e., It is the end of the play period or Janis has become

bored), Denise begins to yell and cry in order to prevent her friend from leaving. If Janis comes back to the activity, Denise will immediately stop crying and begin resume participation in the activity. However, when Janis again attempts to leave, the yelling and crying continue.

3. Escape/Avoidance Motivated: Other learners may request items/events in order to escape an ongoing activity. Consider for example, a learner who after becoming bored with a particular task (e.g., painting), begins to yell and scream and request a more preferable activity (e.g., playing with blocks). Similarly, a learner who is approached with an undesirable item (e.g., a nonpreferred food item) may begin to engage in self-injurious behavior in order to request a more preferred food item.

### **How do I teach a learner to request desired items/events?**

#### **1. Identify the instructional universe**

Identifying the instructional universe for a request for an item/event response involves identifying the range of activities/environments where it is important for the learner to engage in the request for items/events (referred to as a class of positive stimulus). It also entails identifying members of a negative class of stimuli; occasions where the learner should refrain from engaging in the request to obtain items/events response. In addition, entails identifying the full range of response forms that the learner may emit within these environments in order to communicate the desire to acquire a preferred item/event (See Table 1).

Table 1. Instructional universe for a request to obtain items/events response.

Instructional Universe	Appropriate Response	Rationale for Response
<p><b>Positive Stimulus Class</b></p> <p>1. Preferred food item (e.g., cookie) is not accessible during snack time at school.</p> <p>2. While at home before going to bed learner desires to obtain access to favorite toy on shelf.</p>	<p>1. Point to graphic symbol of the desired item.</p> <p>2. Learner emits gesture (points to favorite toy) to indicate the desire to obtain access to it.</p>	<p>1. Use of the graphic symbol will result in the interventionist quickly determining the learner's desire to gain access to the desired item (e.g., cookie).</p> <p>2. The production of a gesture symbolizing (i.e., pointing to the toy) results in parent's delivery of the desired item.</p>
<p><b>Negative Stimulus Class</b></p> <p>1. Preferred food item (e.g., cookie) is placed on a plate directly in front of the learner at snack time.</p> <p>2. Learner is going for a ride in the car with and the preferred item is not accessible .</p>	<p>1. Learner refrains from producing requesting items/event response.</p> <p>2. Learner refrains from requesting to obtain access to the preferred item.</p>	<p>1. When learner is provided access to a preferred item, during an appropriate time for the learner to access the item, the learner should refrain from producing the request for the item/event response.</p> <p>2. In situations where the item can not be made available to the learner, he or she should refrain from producing the requesting response.</p>

## 2. Identify teaching examples

The following steps delineate procedures for identifying teaching examples to be used in replacing challenging behaviors with a request to obtain access to items/events response.

### Step 1: Identify situations that serve as contexts item/events requests.

The situations that one might consider as contexts for obtain access to items/events are identical to the scenarios described in the section "Who would benefit from being taught to request items/events?".

#### i. The learner desires to obtain access to preferred items/events.

ii. The learner desires to to obtain access to items/events in order to maintain an interaction/event.

ii. The learner requests to obtain access to items/events in order to escape/avoid an undesired activity.

Step 2: Identify the preferred item/event that the learner is likely to desire to obtain.

Conducting reinforcing preference testing (See section \_\_\_\_\_) will allow the interventionist to determine what objects(s) are considered desirable by the learner. It is also important to identify times of the day that the learner is likely to request those objects. For example, although Marie's favorite toy is the musical bunny, it appears that she desires it more towards the end of the day than she does early in the morning. Therefore, the later part of the day may be a better time to implement the requesting program, as she will be more likely to desire the musical bunny.

Step 3: Identify the range of teaching examples.

Once situations that serve as contexts for item/event requests have been identified, the interventionist should identify the full range of teaching examples. This entails identifying positive teaching examples, where the learner should engage in the request item/event response, as well as negative teaching examples, where the learner should refrain from engaging in the request item/event response. In addition, examples should be identified where it is unclear whether or not the learner should emit the request for item/events response.

Step 4: Conduct an analysis of the efficiency of the communicative replacement.

In order to ensure that the communicative replacement is efficient from the learner's perspective, it is essential for the interventionist to perform an analysis of the efficiency to the communicative response in relationship to the existing response (i.e., the challenging behavior). Table 2 has been provided in order to illustrate how one would go about analyzing each aspect of response efficiency when teaching a request for desired items/events in order to replace challenging behaviors.

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Insert Table 2 about here.  
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Step 5: Determine the point at which the learner is likely to desire access to a preferred time/event

Direct observation should take place during times of the day where the learner is likely to exhibit challenging behaviors in order to request the desired item/event. However, depending on the learner, a variety of stimulus conditions may result in the occurrence of the challenging behavior.

- Learners may engage in access motivated challenging behavior in the presence of a small set of discrete events. For example, upon entering the kitchen the a learner may begin to tantrum in order to obtain a preferred beverage.
- Other learners may engage in an activity for a brief amount of time ( in the absence of the preferred item/event), before engaging in challenging behavior in order to obtain the item/event.

There are two different options for determining the point at which the learner is likely to desire attention. The first option addresses learners who engage in challenging behaviors in response to discrete events. The second method addresses learners who will participate in an activity for a brief amount of time before engaging in challenging behavior in order to obtain the desired item/events.

Option 1: Identifying discrete events that result in a learner engaging in challenging behavior to obtain attention

Some learners may engage in challenging behavior in response to one or more discrete events in their environment. For example, as soon as Marybeth returns from the playground she immediately begins to scream "I want water!" In these cases, it is important to observe the learner engaging in his or her daily routine over the course of several days, in order to determine the situations in which she or

Developing and Evaluating a Model of Inservice and Technical Assistance to Prevent Challenging Behavior in Preschoolers, Grant # H024P10017.

he is likely to desire access to items/events. The Requesting Item/Event Observation Sheet (discrete event) [Form A] can be used to document whether the learner emitted challenging behavior(s) in order to gain access to items/events while engaged in his or her daily routine across several days.

The following procedures indicate how to use the Requesting Item/Event Observation Sheet (discrete event) in order to determine the point at which a learner is likely to desire attention:

- 1) Observe the learner engaging in his or her daily routine across several days.
- 2) When a challenging behavior is emitted in order to acquire access to an item/event, document the activity or time of day that the behavior occurred.
- 3) Describe the situation at hand and/or events that took place just prior to the occurrence of the challenging behavior (e.g., the preferred item was just removed from the learner's environment, the preferred item was out of reach, the learner just entered the room and a peer was interacting with the preferred item).
- 4) Describe the challenging behavior that was emitted by the learner.

Option 2: Identifying the amount of time a learner will participate in an activity before desiring to obtain the desired item/event.

Other learners may engage in an activity for a brief period of time before desiring access to desired items/events. In these instances it is important to document how long the learner will engage in the activity (e.g., free play, art, music) before emitting the challenging behavior. Documentation of the learner's behavior and the time that it was emitted will provide the interventionist with important information regarding:

- the types of behavior(s) that are emitted by the learner in order to procure an object.

- the length of time that the learner will participate in the activity before s/he will emit the identified behavior(s).

The following procedures indicate how this information should be acquired. The Requesting Item/Event Observation Sheet (critical time period) [Form B] can be used to record the information.

- 1) Time the learner from the moment s/he starts the activity until s/he begins to indicate the desire to obtain a preferred object (note: the amount of time that the learner remains engaged in the task can be measured by watching a clock in the room, counting seconds quietly to your self or by using a stop watch).
- 2) Record this time interval over several occurrences of the activity.
- 3) Identify the shortest amount of time that the learner will participate without emitting the behavior.
- 4) In order to determine the critical time period, reduce the shortest amount of time that the learner remained in the activity prior to desiring access to the desired item/event, to an amount that will ensure the absence of challenging behavior (Note: the exact amount of seconds/minutes that the least amount to time should be reduced is based on individual learner differences).

For example, Fig. 1 illustrates the behaviors emitted by Marie while engaged in a circle time activity. Across all five days, she would participate in the activity for at least four minutes before she would look around the room for her bunny and then begin to yell, cry and flail her arms.

-----  
Insert Figure 1 about here.  
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### 3. Begin instruction

#### Step 1: Order teaching examples to ensure generalized and conditional use of the request to obtain items/events response.

Instruction should begin with both positive and negative teaching examples. Initially these examples should be maximally discriminable. For example, upon seeing an adult enter the room with a tray of cookies, the learner is taught to engage in the requesting response. When the a cookie is placed on a small plate, directly in front of the learner, she should be taught to refrain from engaging in the requesting response. Across opportunities, the teaching examples should become more and more ambiguous, making it less obvious to the learner whether or not she should engage in the communicative response. For example, at times the small plate with the cookie on it could be placed in the center of the table.

#### Step 2: Prompt the learner to request the desired item/event

During the initial stages, when teaching a learner to request item/events, it is important to prompt the learner to engage in the communicative response, before s/he emits the challenging behavior (e.g., tantruming, aggression, etc.). Consider Marie for example. Across all three days of observation, she would participate in an activity for four minutes before she would begin to exhibit the desire to gain access to her bunny (e.g., look around the room). In order to prevent Marie from engaging in challenging behaviors (e.g., yell, cry, flail her arms), the interventionist will prompt her to engage in a requesting response within four minutes of the activity (e.g., at 3 minutes 30 econds). For example, the interventionist may present Marie with a photo of the preferred toy (bunny).

**Note:** The interventionist should be sure not to prompt the learner to perform the new response following the occurrence of the challenging behavior. This could lead to the learner chaining the two responses. For example, each time the learner desires to gain access to a preferred item, she begins to yell and cry. If each time the learner engages in this behavior (e.g., yelling and crying) the interventionist prompts her to engage in the communicative response (e.g., Point to a photo of the

desired object) it is likely that the learner will begin to consistently perform both of these behaviors (yelling and pointing to the photograph).

### **How do I keep track of the Learner's progress?**

In order to determine whether or not the request for tangibles intervention is successful in decreasing a learner's challenging behaviors, it is important to monitor the learner's performance. The Request Item/Event Progress Monitoring Form (critical time) [Form C] may be used in order to document learner progress. Consider Marie for example. Marie's educational team decided that the most efficient means for her to request tangibles would be to touch a graphic symbol (photograph) representing the preferred item. Physical prompts were found to be the most successful with Marie. Therefore, Marie was physically prompted to touch a photo of her musical bunny at exactly 3 minutes and 30 seconds (the "critical time period") into the circle time activity. Fig 2 displays Marie's progress over 2 weeks. As Fig. 2 illustrates, Marie's interventionist was able to gradually increase the critical time period from 3 minutes and 30 seconds to 7 minutes, and fade the physical prompt from "full" to "partial".

-----  
Insert Figure 2 about here.  
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### **How do I know if the program is working?**

In order to determine if the program is working, it will be necessary to examine the learner's progress over a period of time. This will be accomplished using the information from the Request Items/Events Progress Sheet (Critical Time). Figure 3 incorporates the information from Marie's progress sheet in order to determine if the program is successful at decreasing the occurrence of her challenging behaviors.

-----  
Insert Figure 3 about here.  
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## **Additional Considerations**

### Implement a Tolerance for Delay program

Although a learner will request desired items or events, at times it may be inappropriate for him or her to gain access to the item or event that they requested. For example, it would be disruptive for a learner to gain access to a desired musical toy in the middle of story time. On some occasions it might be impossible to provide the learner with the item or event that they requested. For example, a learner may request a favorite beverage, while in an environment where that beverage is not available. In situations such as these the interventionist could implement a tolerance for delay program in order to indicate to the learner that in a brief period of time, contingent on appropriate behavior they will be provided access to the desired item or event. (Refer to the Tolerance for Delay section of the Intervention Module.)

Table 2. An example of a Response Efficiency Analysis for a learner being taught to request desired items/activities as a communicative replacement for tantruming which serves the function of obtaining access to items/activities.

	Challenging Behavior	An inefficient Response	An Efficient Response
<b>Response Effort</b>	Marie, a learner with fine motor difficulties, has a tenjancy to tantrum when she desires her favorite toy (a musical bunny). Her tantrum consists of screaming and crying and escalates to throwing herself on the floor and kicking and flailing her arms and legs.	An inefficient communicative replacement (due to her difficulties with fine motor tasks) might be for Marie to form the sign representing musical bunny.	An efficient communicative replacement from Marie's perspective might be to touch a photograph of her musical bunny which is attached to the cover of her communication book.
<b>Rate of Reinforcement</b>	Following Marie's tantrum, in order to gain access to her musical bunny, her teacher brings her the musical bunny and then continues to bring her various other toys that she thought Marie might like for the remainder of the play period.	It would be inefficient from Marie's perspective, if when she emitted her communicative replacement (touched the symbol of the bunny), her teacher responded only once by bringing the bunny.	When Marie emits her communicative alternative (i.e., touches the picture of her bunny) her teacher responds first by bringing her the musical bunny, and then approaches Marie at other times during the play period with other preferred toys.
<b>Quality of Reinforcement</b>	After Marie tantrums in order to acquire her musical bunny, her teacher presents the bunny to her, winds it up and sings a song while the bunny plays music.	It would be inefficient from Marie's perspective if following engagement in the communicative replacement, her teacher merely presented her with the bunny and then immediately left the area.	Following Marie's request for her musical bunny, her teacher is sure to wind up the rabbit and sing the song while the rabbit plays music.
<b>Immediacy of Reinforcement</b>	After Marie tantrums, her teacher or classroom assistant stop what they are doing and immediately bring her the musical rabbit.	Following Marie's request for her musical rabbit, her teacher takes her time looking for the rabbit and becomes distracted by a number of other students as she makes her way toward Marie.	Marie's communicative replacement would be efficient from her perspective if immediately after she points to the photo of the rabbit her teacher stops what she is doing and immediately brings it to Marie.





**Form B      Requesting Preferred Item/Activity Observation Sheet**  
**(Critical Time)**

Student Name: \_\_\_\_\_  
 Activity: \_\_\_\_\_  
 Observer: \_\_\_\_\_  
 Challenging Behavior: \_\_\_\_\_

- Directions:** For each opportunity:
- a) write the date
  - b) note the time activity
  - c) write down the amount of time that elapsed prior to the challenging
  - d) write down the challenging behavior emitted by the learner

Preferred Object(s)/Activity(s): \_\_\_\_\_

Date	Amount of time before behavior was emitted	Challenging Behavior	Date	Amount of time before behavior was emitted	Challenging Behavior
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	

Developing and Evaluating a Model of Inservice and Technical Assistance to Prevent Challenging Behavior in Preschoolers, Grant # H024P10017.



**Figure 1      Requesting Preferred Items/Events      Form B**  
**Observation Sheet**  
**Critical Time**

Student Name: Marie

Activity: Circle time

Observer: Katnleen

Challenging Behavior: Yell, cry, flail arms

**Directions:** For each opportunity:  
 a) write the date  
 b) note the time activity  
 c) write down the amount of time that elapsed prior to the challenging  
 d) describe the behavior

Preferred Object(s)/Activity(s): Musical bunny

Date	Amount of time before behavior was emitted	Challenging Behavior	Date	Amount of time before behavior was emitted	Challenging Behavior
9/7	<u>4</u> min. <u>30</u> sec.	Yell, cry		___ min. ___ sec.	
9/8	<u>4</u> min. <u>50</u> sec.	Yell, cry, flail arms		___ min. ___ sec.	
9/9	<u>4</u> min. <u>0</u> sec.	Yell, cry		___ min. ___ sec.	
9/10	<u>5</u> min. <u>0</u> sec.	Yell, cry, flail arms		___ min. ___ sec.	
9/11	<u>4</u> min. <u>30</u> sec.	Yell, cry, flail arms		___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	
	___ min. ___ sec.			___ min. ___ sec.	

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**Form C**

**Requesting Item/Event Progress Sheet**  
**(Discrete Events)**

Student Name: \_\_\_\_\_

Observer: \_\_\_\_\_

Challenging Behavior: \_\_\_\_\_

Prompt Method: Circle the prompting method(s) used  
 P=Physical prompt (e.g. placed the learner's hand on the symbol)  
 G=Gestural prompt (e.g. point to the symbol)  
 V=Verbal prompt (e.g. "point to your symbol")  
 N=No prompt necessary, spontaneous

**Directions**

For each opportunity:

- a) Note the date
- b) Note the point at which the learner should emit the request attention response
- c) If the learner emits the request attention response, circle the level of prompt delivered  
 F = Full prompt  
 P = Partial prompt  
 N = No prompt
- e) Place an "X" on the line if the target behavior was emitted.

Date	Point at which learner should emit the request item/event response	Emitted Requesting Response			Challenging Behavior
		Level of prompt			
		F	P	N	_____
		F	P	N	_____
		F	P	N	_____
		F	P	N	_____
		F	P	N	_____
		F	P	N	_____
		F	P	N	_____
		F	P	N	_____
		F	P	N	_____
		F	P	N	_____

Form D

## Request Item/Event Progress Sheet (Critical Time)

Student Name: \_\_\_\_\_  
Activity: \_\_\_\_\_  
Observer: \_\_\_\_\_

**Directions:**

For each opportunity:

- a) write the date
- b) write the critical time period
- c) if the learner emits the request tangible response, circle the level of prompt delivered  
F = Full prompt  
P = Partial prompt  
N = No prompt
- d) place an "X" on the line if the target behavior was emitted (e.g., tantrumming)

Prompt Method: Circle the prompting method(s) used

P=Physical prompt (e.g. placed the learner's hand on the symbol)

G=Gestural prompt (e.g. point to the symbol)

V=Verbal prompt (e.g. "point to your symbol")

N=No prompt necessary, spontaneous

Date	Activity	Critical Time Period	Emitted Request Tangible Response Level of prompt	Behavior Emitted
		__ min. __ sec.	F P N	—
		__ min. __ sec.	F P N	—
		__ min. __ sec.	F P N	—
		__ min. __ sec.	F P N	—
		__ min. __ sec.	F P N	—
		__ min. __ sec.	F P N	—
		__ min. __ sec.	F P N	—
		__ min. __ sec.	F P N	—
		__ min. __ sec.	F P N	—
		__ min. __ sec.	F P N	—
		__ min. __ sec.	F P N	—
		__ min. __ sec.	F P N	—

Developing and Evaluating a Model of Inservice and Technical Assistance to Prevent Challenging Behavior in Preschoolers, Grant # H024P10017.

**Technical Assistance Monitoring Procedures****I. What is the purpose of monitoring the technical assistance process?**

It is important that a careful and systematic technical assistance monitoring process be put into place to ensure that the technical assistance team is meeting the needs of the professionals, parents and students within the school district. The monitoring process helps to identify aspects of the technical assistance model that result in professionals successfully implementing proactive interventions with learners who engage in challenging behaviors. In addition to identifying the aspects of the delivery model that are highly successful, monitoring the technical assistance process will also assist in identifying aspects of technical assistance that require modification.

**II. How is the information derived from the technical assistance monitoring process useful to each of the individuals involved?**

Administrative personnel, the technical assistance team members, and members of the learner's I.E.P./I.F.S.P. team (including parents) will all benefit from the information derived from the T. A. monitoring process.

**1. Administrative Personnel**

The information derived from the T. A. monitoring procedures can be used by administrative personnel, in order to make programmatic decisions regarding:

**• Determining inservice training needs**

Information can be used to help identify professionals in the district, who would benefit from receiving training in the area of positive interventions for learners who engage in challenging behaviors. Training on this scale, could be conducted in the form of inservices. Inservice training, consists of disseminating information to one or a group of individuals. The information provided at the inservice

training sessions is presented in a general manner, and is meant to be applied to any number of learners or classroom settings. For example, enough general procedural information is presented on schedule systems, so that the participants can then apply it to one or a number of students in their classes. Similarly, information can be provided in the area of environmental manipulations that would enable any one of the participants to incorporate these strategies into their classroom settings.

- Determining the most successful technical assistance strategies.  
Information can be used to determine the most effective and efficient means of delivering technical assistance. Technical assistance is defined as the dissemination of information that can be applied to one specific learner or classroom situation. For example, a teacher may be concerned about the behavior of a particular student in his/her classroom. S/he may request information from the T. A. team regarding proactive intervention strategies. Another teacher, may be interested in learning how to arrange her classroom furniture in order to decrease the challenging behavior exhibited by one of her students. In both of these examples, the T. A. team members would provide specific and individualized programming information.
- Determining staff satisfaction  
Throughout the technical assistance process, the T. A. team members will distribute surveys to both T. A. recipients and other professionals within the district who have utilized the services offered by the T.A. team (e.g., attended workshops, borrowed materials from the resource library, etc.). These surveys will address each professional's level of satisfaction with the T. A. team and the services they deliver. Form 1 is an example of a staff satisfaction survey.

Form 1

Technical Assistance Team  
FeedBack Form

Directions: Please rate the following statements on a scale from 1 to 4: 1 meaning you strongly disagree with the statement, a meaning you strongly agree with the statement

- |   |                           |               |            |
|---|---------------------------|---------------|------------|
| 1. The T. A. team case manager was responsive to my needs.  | Strongly<br>Disagree<br>1 | Disagree<br>2 | Agree<br>3 |
| 2. The T. A. team case manager worked in a collaborative manner.  | Strongly<br>Disagree<br>1 | Disagree<br>2 | Agree<br>3 |
| 3. The T. A. team case manager was flexible in scheduling meeting and observation times.  | Strongly<br>Disagree<br>1 | Disagree<br>2 | Agree<br>3 |
| 4. The T. A. team case manager was knowledgeable about a variety of intervention techniques and presented them well.                              | Strongly<br>Disagree<br>1 | Disagree<br>2 | Agree<br>3 |
| 5. The types of interventions suggested were realistic for my situation.  | Strongly<br>Disagree<br>1 | Disagree<br>2 | Agree<br>3 |
| 6. I felt I was an active participant in discussing intervention options and in selecting the intervention(s).                                    | Strongly<br>Disagree<br>1 | Disagree<br>2 | Agree<br>3 |
| 7. The T. A. team case manager was flexible in providing the necessary on-going technical assistance I needed to implement the interventions (s). | Strongly<br>Disagree<br>1 | Disagree<br>2 | Agree<br>3 |
| 8. The T. A. team case manager was available for follow-up and trouble shooting after the intervention was implemented.                           | Strongly<br>Disagree<br>1 | Disagree<br>2 | Agree<br>3 |
| 9. The intervention was beneficial to the child.  | Strongly<br>Disagree<br>1 | Disagree<br>2 | Agree<br>3 |
| 10. If in need of information or assistance, I will refer to PIRT in the future.  | Strongly<br>Disagree<br>1 | Disagree<br>2 | Agree<br>3 |

-----  
11. Additional comments/suggestions:



- Continuation of funding

Information can be used to make decisions concerning continued funding of the team based on its effectiveness in delivering technical assistance in the area of proactive interventions for learners with challenging behaviors. Specifically, the technical assistance monitoring process will determine:

- the number of students and staff who were directly involved with the technical assistance team (e.g., students who were referred and were assigned a case manager).
- the number of students and staff who benefitted from the T. A. team, although were not directly involved with the T. A. team (e.g., students were not referred to the team, but staff implemented procedures based on information acquired from the T. A. team members).

2. Technical Assistance Team Members

The information derived from the T. A. monitoring procedures can be used by the T. A. team members in order to make decisions regarding the delivery of technical assistance.

- Determining the types and quantity of technical assistance that professionals feel most comfortable receiving

Ongoing analysis of the information derived from the T. A. monitoring process will allow the T. A. team members to determine the amount of resources (e.g., training materials, training sessions, on site modeling, etc.) that are needed in order to deliver adequate technical assistance to a specific professional (e.g., classroom teacher). The monitoring process will also help to ensure that each member of the I.E.P./I.F.S.P. team will have access to the type of technical assistance in which s/he feels most comfortable acquiring.

- Determining when the technical assistance process should be terminated for a given interventionist

Ongoing analysis will also allow the T. A. team to determine an appropriate time to terminate technical assistance. Technical assistance may be terminated for a variety of reasons that include:

- The learner who was referred to the T.A. team is no longer exhibiting challenging behaviors, therefore the T. A. recipient is no longer in need of technical assistance.
  - The T. A. recipient is independently making proactive programming decisions based on information derived from learner progress monitoring activities.
  - The primary recipient of the technical assistance, in addition to the other I.E.P. team members, are no longer interested in receiving technical assistance. This may be displayed by their refraining from contacting the T. A. team members, lack of implementation of the suggested interventions, and/or a lack of collaboration with other members of the I.E.P. team.
  - Following repeated attempts by the T. A. team members to obtain participation from members of the I.E.P./I.F.S.P. team, either the T. A. team members or the I.E.P./I.F.S.P. team requests that the technical assistance process be terminated.
- Identification of specific needs of professionals  
Information collected over a substantial period of time, will indicate to the T. A. team members specific needs of the professionals within their district. Specifically, the gathered information will help to identify areas of content weakness. For example, arranging the environment in order to decrease challenging behaviors, or teaching a communicative response in order to replace a challenging behavior. Additionally, the most efficient options available in the delivery of

technical assistance will be identified in order to ensure that professionals will find the technical assistance process useful.

### 3. I.E.P./I.F.S.P. teams

The members of the I.E.P./I.F.S.P. team are key players throughout the entire technical assistance monitoring process. Their participation in the technical assistance process, and their evaluative feedback shape the technical assistance delivery model within their district. The information gathered from the T. A. monitoring process will help the I.E.P./I.F.S.P. teams identify the strengths and needs of individual team members. Additionally, as the I.E.P./I.F.S.P. team provides evaluative feedback, the T. A. team members can tailor their resources and services to meet the needs of each member of the I.E.P./I.F.S.P. team.

### **III. What responsibilities do the members of the T. A. team share in the monitoring process?**

Each T. A. team member is responsible for monitoring the T. A. delivery process. The implementation of the T. A. monitoring procedures goes hand in hand with the provision of technical assistance. The team members' responsibilities include:

- being assigned as a "case manager" for a number of learners who are referred to the T. A. team.
- obtaining information regarding the T. A. recipient's participation in the T. A. process.
- documenting pertinent information at the conclusion of each interaction with the T. A. recipient.
- organizing and presenting the information gained from the T. A. monitoring process to the other members of the T. A. team.

#### IV. What types of resources will the T. A. team provide to the recipients of technical assistance?

The technical assistance team must determine the types of technical assistance resources that they are capable of providing to professionals within their district. The following are examples of potential resources to be provided by the T.A. team members.

- Reading materials  
Written training modules that specifically address the potential intervention may be distributed to the T. A. recipients. Each module contains step by step procedures for implementing the specific intervention (e.g., behavioral momentum, choice making, environmental rearrangement). In addition to the procedural steps, potential troubleshoots to address challenges that might arise during the intervention process are provided. For example, a learner may fail to discriminate between graphic symbols, or may not generalize his/her communicative response to different environments.
- Audio/visual materials  
Some school districts may have access to training materials that are in the form of videotapes and/or computer programs. For example, training tapes are available that address proactive interventions for challenging behaviors and intervention modules have been programmed onto interactive computer applications. These programs and tapes may be given to the T. A. recipient to review independently.
- Workshops  
The T.A. team member(s) may schedule a time to meet with all of the individuals involved in the intervention program (e.g., parents, staff, teachers, etc.). The T.A. recipient may use this time to conduct a workshop addressing the particular intervention that will be implemented (e.g., safety signal, schedule system, a preferred item as a distractor). During this workshop, the T.A. team member may present a rationale for the intervention,

specific instructions for program implementation, and instructions on how to monitor learner progress. Time may also be set aside for questions and an open discussion regarding the learner and the particular intervention.

- Intervention programming meetings

During intervention programming meetings, the T. A. team members and the T. A. recipient(s) observe and/or discuss the actual progress of the learner and the efficiency and effectiveness of the strategies being implemented. The purpose of these meetings is to decide upon troubleshoots and modifications that might be necessary for successful implementation of the intervention program. Meetings may last between 15 and 60 minutes and are scheduled on a regular bases (e.g., weekly, semi-weekly).

- Modeling of intervention procedures

If necessary, the T.A. team member may model the intervention with the learner within his/her instructional environment (e.g., classroom, playground, cafeteria). This will enable the T.A. recipients to examine first hand, how the intervention procedures will be implemented.

#### V. **How does the T. A. team determine the density of resources to be expended to the recipients of technical assistance?**

Initially, the T. A. team must determine a series of "levels" of technical Assistance from which the T.A. recipient may choose. Levels of technical assistance delineate clear differences in the amount of resources that will be expended by the T. A. team. The amount of resources expended can be defined in terms of two variables:

- Amount of time spent providing direct training to the T.A. recipient.

Direct training can be defined as the provision of explicit instructions to member(s) of the IEP/IFSP team. These instructions may be delivered in the form of workshops, intervention program meetings or through actual modeling of the intervention procedures with the learner present.

- Frequency with which direct contact between technical assistance providers and recipient(s) occur. The frequency with which technical assistance activities (e.g., workshops, intervention programming meetings) occur, can be arranged according to the various options of technical assistance delivery. For example, intervention programming meetings may take place once every week or once every month.

1. Why is it important to offer T. A. recipients a number of options from which to choose?

Potential recipients of technical assistance have varied academic backgrounds and learning styles. For example, a veteran teacher of 10 years may not look favorably upon having T. A. providers enter his/her class on a weekly basis. On the other hand, a first year teacher may welcome the additional resources. Another teacher may be well versed in positive interventions for learners with challenging behaviors.

Therefore the only assistance s/he may need is an occasional meeting (2-3 times per year) with a member of the team to keep updated on new and innovative interventions. A teacher with no experience or knowledge in positive interventions may request a substantial amount of technical assistance (e.g., weekly visits by his/her student's case manager). Initially options are staff directed (i.e., they choose the technical assistance option). Their efficiency and reliability in using the technical assistance will influence future density of technical assistance.

2. How does the T. A. team go about defining the levels of technical assistance that they will offer to the professionals within their district?

Step 1      Brainstorm options for the provision of technical assistance

The team should work together and brainstorm every possible means of expending their resources to the professionals within their school district.

For example, any option that comes to mind regarding the dissemination of information and materials (See section D) should be shared with the other team members.

Step 2      Print generated ideas on a large display

All of the contributions should be written on a large board, pad or overhead projector, so that the team members can see the ideas that are generating.

Step 3      Place each option of T. A. provision on each of two continuums

The two continuums in which each option of T. A. provision should be placed are:

- The amount of time that is required by the T. A. to implement the technical assistance option

and

- The frequency of contacts between the T.A. recipient and the T. A. team member that would be required in order to implement the option.

For example, the technical assistance team may choose to offer training sessions to all classroom staff as a means of providing technical assistance. These training sessions could last anywhere between 20 minutes and 120 minutes (continuum #1) and may be conducted weekly, monthly or semi-monthly (continuum #2)

Step 4      Determine the number of levels of technical assistance that will be offered to the T. A. recipient

Once the team has generated a number of strategies for delivering technical assistance, they must decide upon the number of levels they would like to offer the recipients of technical assistance. Once the number of levels is determined, the team can begin to assign various "intensities" of technical assistance to each of the levels.

For example, if the team decides that three levels would be appropriate, they may designate Level 1 as consisting of the delivery of training modules to be conducted one time during the intervention process. Level 2 may consist of the delivery of training modules in conjunction with monthly follow-up visits. Finally, Level 3 may consist of weekly visits that entail intensive training sessions.

Fig. 1 illustrates the T. A. team's three levels of technical assistance, along with a description of the variables within each level.

### An Example of Levels of Technical Assistance and Corresponding Variables

#### Level 1

The case manager will deliver up to 2 hours of training within 1 week, with the T. A. recipient present (and possibly others). (No follow up visits are made, unless request is made by the T. A. recipient).

Note: Procedural reliability probes will be conducted by someone other than a team member (e.g., Project staff)

#### Level 2

The case manager will deliver up to 2 hours of training within 1 week, with T. A. recipient present (and possibly others)

+

The case manager will perform one on-site visit per month, which will include directly observing the learner. The case manager will elicit feedback from the T. A. recipient, in addition to offering feedback. (The case manager will be sure to document the T. A. recipient's feedback before offering his/her own).

Note: Procedural reliability probes will be conducted by someone other than a team member (e.g., Project staff)

#### Level 3

The case manager will deliver up to 2 hours of training within 1 week, with the T. A. recipient present (and possibly others).

+

The case manager will observe the learner and meet with the T. A. recipient for 1 session each week. (Team member will be sure to document the T. A. recipient's feedback before offering his/her own).

Note: Procedural reliability probes will be conducted by a member of the T. A. team (e.g., the case manager).

## **VI. How is pertinent information about the recipients of technical assistance obtained by the T. A. team members?**

It is important for the T. A. team members to obtain information pertaining to of the individuals receiving technical assistance from the T. A. team. Pertinent information can be obtained through the use of a "Technical Assistance Recipient Profile".

### **1. What is a Technical Assistance Recipient Profile?**

The Technical Assistance Recipient Profile (Form 2) is a list of questions to be answered by the technical assistance recipients. The questions address information that includes the recipient's educational background (e.g., highest academic degree, date graduated and areas of course work), teaching history (e.g., number of years, age and classification of students, etc.) and current job placement (e.g., school and grade level).

### **2. Why is the information obtained from the T. A. recipient profile important to the T. A. team?**

The T. A. profile provides the T. A. team with demographic information about the recipients of the technical assistance process. This information may be used in order to draw important conclusions about the professionals with whom the team provides technical assistance. The following examples illustrate the types of questions that may be answered as a result of gathering demographic information from the T. A. recipients.

- Does the amount of experience within the district have an effect on the level of participation that the T. A. recipient exhibits. For example, are professionals who are just beginning their careers more or less likely than more experienced professionals to participate in the technical assistance process?

- Are the professionals who have received training from a particular preservice institution more adept at conducting interventions than professionals who have received their training elsewhere?
- Are there particular sites within the district that are "overly dependent" on the teams services (e.g., tend to refer a very large number of learners) or who are not utilizing the T. A. team (e.g., have never referred a learner)?

Given answers to these questions, both the school district administrators and the T. A. team members can determine where the strengths and weaknesses lie within their district. For example, they may find that newer teachers are more likely to request more intensive technical assistance and more experienced teachers prefer pass up the opportunity to work with the team, regardless of the needs of their students. The team might also identify a site that would benefit from group focused work shops. The T. A. team could begin to conduct regularly scheduled workshops (e.g., on a weekly basis), for all staff at a particular site.

Fig. 3 is a sample "T. A. Recipient Profile Form".

## **VII. What technical assistance program variables may be examined throughout the technical assistance process?**

The following variables may be monitored throughout the technical assistance process (See figure 4 for an outline of definitions):

1. The consistency with which the technical assistance recipient responds to participation opportunities.

Early in the technical assistance process, it is important to establish a history of participation on the part of the technical assistance recipient.

To establish this level of participation, it may be important to determine the types of requests from the T. A. team members that are most apt to result in technical assistance recipient participation. Typical requests made by the technical assistance providers include:

- Request information about schedule
- Request information about learner's participation in activity
- Request information regarding health
- Request implementation of reinforcer preference with materials, etc.

The T. A. recipient may acquire this information directly or indirectly via:

- Direct observation of the learner and interventionist(s)
- Retrieval of information from school staff
- Retrieval of information from I.E.P. or other archives
- Retrieval of information from parent

2. The extent to which the technical assistant recipient initiates contact with the T. A. team member

Initiating contact involves the T. A. recipient attempting to reach the T. A. team member in order to set up an interaction to take place either on the telephone or in-person. The frequency with which the T.A. team recipient attempts to initiate contact with the T. A. team member within a specified period of time (e.g., weekly, monthly) may be documented. Categories addressing this variable include:

- The case manager contacts the T. A. recipient (e.g., in-person visit, telephone call, fax or interoffice mail).
- The T. A. recipient contacts the case manager with prior planning (e.g., at a previous meeting, schedules a specific time to meet).
- The T. A. recipient initiates contact in the absence of prior planning.

3. The mode of contact that results in the greatest participation in technical assistance process

Whether initiating participation or responding to a query for participation, the method used by the T. A. recipient in order to interact with a T. A. team member is documented (e.g., phone, fax, interoffice, mail or in-person). Specific categories addressing this variable include:

- The T. A. recipient contacts the case manager by telephone.
- The T. A. recipient contacts the case manager by FAX.
- The T. A. recipient contacts the case manager through interoffice mail.
- The T. A. recipient contacts the case manager by approaching him/her in person (e.g., stopping by his/her office, stopping him/her in the hall).

4. The specificity of information provided by the T.A. recipient

Once the T. A. recipient actually comes into contact with the T. A. team member (e.g., phone conference, in-person meeting), the specificity of that contact is documented. For example, was the contact made in order to have a general discussion, or did the T. A. recipient have specific concerns or issues in which s/he wished to discuss? Specific categories addressing this variable include:

- General discussion takes place. The T. A. may comment on the intervention program, however, no concerns are discussed.
- The specific intervention plan is discussed in terms of learner performance. For example, the teacher may comment, "Brian is using his schedule board during classroom transitions".

- The T. A. recipient requests specific help. For example, the T. A. may put together a "to do" list for the case manager, or request specific information or materials.
- A specific problem is discussed with a plan of procedures to be followed. The T. A. recipient determines what the problem is and makes suggestions on how to make corrections or adjustments.

5. The T. A. recipient's generalized use of proactive intervention strategies

The extent to which the T. A. recipient generalizes information gained from the T. A. process is documented. Categories within this technical assistance monitoring variable include:

- The recipient begins to discuss a topic based on information shared by the case manager. The discussion is based on previous discussions/information provided by the case manager.
- The T. A. recipient begins to describe detailed examples of events that have occurred. Begins to hypothesize proactive solutions for the student. Includes information such as, the function of the behavior, antecedents, consequences and environmental changes.
- The T. A. recipient begins to generalize intervention strategies:
  - Generalizes intervention strategies within learner to new environments. For example, if the learner is beginning to exhibit challenging behaviors in an environment other than the one in which the intervention was targeted, does the T. A. recipient apply the previously learned information?
  - Independently teaches other staff to use a particular procedure with a student that is the focus of technical assistance. Does

the T. A. recipient share his/her newly gained knowledge regarding functional assessments, interventions and monitoring procedures, with other professionals who are familiar with the learner?

- Independently teaches other staff to use a procedure, in absence of a particular learner in mind. Does the T. A. recipient share his/her newly gained knowledge with other professionals in a general manner. For example, the T. A. recipient may explain a certain procedure to an interested colleague, although the colleague does not have a particular learner in mind.
- Using proactive strategies with students that were not originally the focus of intervention. Does the T. A. recipient apply his/her newly gained knowledge with other students in the class who may be exhibiting challenging behaviors?

6. The efficiency with which the information provided via technical assistance is delivered to classroom staff

The ability to manage staff, is often a key factor in conducting successful interventions. Therefore, monitoring procedures are implemented in order to determine the extent to which the T. A. recipient is able to manage staff in order to ensure the accurate implementation of the intervention. The T. A. recipient's participation in the following activities indicates the extent to which s/he engages in staff management activities:

- The T. A. recipient explains the intervention program to staff, providing them with a rationale and informs them of the goals and procedures of the program.

- The T. A. recipient has developed a means of delivering program implementation or program change information to other staff members. This may be done via:
  - written instructions
  - regularly scheduled staff meetings
  
- The T. A. recipient takes steps to ensure that staff are implementing the program accurately. The T. A. recipient may do this formally, by collecting procedural reliability or informally by observing the staff member while s/he is working with the target student.
  
- The T. A. recipient provides specific feedback to staff regarding program implementation. Feedback regarding accuracy of implementation may be delivered via in-person contacts, procedural checklists, etc.
  
- The T. A. recipient communicates with other members of the learner's I.E.P./I.F.S.P. team (e.g., parent, related service personnel) about the status of the program.

7. The preciseness and accuracy with which learner progress is monitored

The monitoring of learner progress is conducted simultaneously with intervention activities. The extent to which the T. A. recipient engages in learner monitoring activities can be determined by documenting their performance in the following areas:

- Regularity of monitoring activities - Does the T. A. recipient engage in monitoring procedures on a regular basis? For example, is learner progress information documented daily or weekly, or only occasionally?
  
- Display of learner progress information - Does the T. A. recipient display the learner progress information, in order to determine if the

intervention is proceeding successfully? For example, does s/he illustrate learner progress in graph form?

- Ensures that learner progress information is reliable - Does the T. A. recipient engage in activities that ensure that the monitoring of student progress activities are conducted in a reliable fashion?
- Makes decisions based on carefully documented learner progress - To what degree does the T. A. recipient make decisions based on the careful documentation of learner progress?

### VIII. How are the technical assistance monitoring variables prioritized within a school district?

When deciding on the variables to be monitored throughout the technical assistance process, it is important for the T. A. team members to work in conjunction with the administrators of the district. The following section delineates one strategy for prioritizing technical assistance monitoring variables.

- Step 1 Schedule a meeting with the T. A. team members and the school district's administrators.
- Step 2 Prior to the meeting, distribute a packet containing a list of the technical assistance monitoring variables and their corresponding definitions (See fig. 2). Instruct all of the participants to come to the scheduled meeting with a working knowledge of each of the variables and their corresponding definitions.
- Step 3 Each participant should individually rate each variable on the following scale of importance and necessity:

1 = Variables they feel are extremely important and necessary to monitor.

- 2 = Variables they feel are important to monitor but not necessary.
- 3 = Variables they feel are not very important, nor necessary to monitor.

- Step 4 Participant are then each given an opportunity to share with the group their ratings for each of the variables.
- Step 5 The ratings are then analyzed to determine which variables received the most number of ratings of "extremely important and necessary to monitor", and which received the lower ratings.
- Step 6 The variables that received the highest ratings are those that will be monitored by the T. A. team. However, at any time during the technical assistance process, additional variables may be added to the original pool.

**Figure 4****Staff Participation in Technical Assistance: Definitions****Initiator of Contact**

- Category #1 The case manager directly contacts the T. A. recipient. S/he stops by the classroom/office, calls him/her on the telephone, or at a previous meeting, schedules a specific time to meet.
- Category #2 The T.A. recipient initiates the contact with prior planning. For example, at a previous meeting the recipient agreed to call the case manager to update him/her on the target student's program.
- Category #3 The T.A. recipient initiates the contact with no prior planning. S/he spontaneously contacts the provider by phone, fax, mail or visiting the case manager at his/her classroom or office.

**Mode of Contact**

- Category #1 The T.A. recipient contacts the case manager by telephone.
- Category #2 The T.A. recipient contacts the case manager by fax.
- Category #3 The T.A. recipient contacts the case manager through interoffice mail.
- Category #4 The T.A. recipient contacts the case manager by approaching him/her in person (e.g., stopping by his/her office, stopping him/her in the hall, etc.)

**Specificity of Contact**

- Category #1 A quick discussion takes place (in hall or at lunch). The case manager queries the T. A. recipient as to how the intervention is proceeding. The T. A. recipient provides a brief response (e.g., "fine", "Okay"). No concerns discussed, therefore the program proceeds unchanged.
- Category #2 The specific behavior plan is discussed in terms of how it is proceeding. A descriptive discussion of how the child is performing takes place. For example, the teacher comments, "Kelly has been using her symbol to request attention this week."
- Category #3 The problem is discussed with a plan of procedures to be followed. Participants come to a conclusion about what the problem is, in addition to making plans to correct it or to make adjustments.
- Category #4 The T.A. recipient requests specific help, something concrete. For example the T.A. recipient may put together a "to do list" or "a to get list", to be given to the case manager.

**Staff Management by Technical Assistance Recipient**

- Category #1 During the initial stages, the T.A. recipient explains the learner's program to classroom staff. S/he provides them with a rationale, and informs them of the goals and procedures of the program.
- Category #2 The T.A. recipient takes steps to ensure that staff are implementing the program appropriately. The interventionist may do this formally, by collecting procedural reliability, or informally by observing the staff member while s/he is working with the target student.
- Category #3 The T.A. recipient has developed a means of meeting with staff on a consistent basis (either individually or in a group). For example, each afternoon for 10 - 15 minutes, or at a weekly meeting.

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- Category #4 The T.A. recipient communicates with other members of the child's team (e.g., parent, related service personnel) about the status of the program. Communication can take place in written form, over the telephone, through FAX, or in person.
- Category #5 The T.A. recipient provides specific feedback to the staff. For example, after observing the a classroom aid working with the target child, the recipient may go to her and provide specific feedback (e.g., give suggestions on prompting procedures or inform the assistant that she is following procedures).

**Documentation of Learner Progress**

- Category #1 The T.A. recipient provides anecdotal reports about the intervention program in progress.
- Category #2 The T.A. recipient collects learner progress information on an intermittent basis. For example, sometimes information will be collected 3 times per week, others times only once a week.
- Category #3 The T.A. recipient collects learner progress information on a regular basis. For example, each week information is collected a total of 7 times.
- Category #4 The T.A. recipient not only collects learner progress information, but graphically displays it. It may be displayed on his/her own display system (wall chart, graph paper, etc.) or on a system devised by the case manager.
- Category #5 In addition to the T.A. recipient collecting and graphing learner progress, s/he also ensures that the information is reliable.

**Response to Requests**

- Category #1 Provides information based on prior knowledge/experience. No effort is exerted on the part of the T. A. recipient in order to procure the information.
- Category #2 Provides information based on review of records. The T. A. recipient refers to written records in order to procure information (e.g., IEP/IFSP, psychological reports, medical reports, etc.)
- Category #3 Provides information based on staff discussion. The T. A. recipient meets with related service personnel (e.g., assistants, speech language pathologist, O.T., P. T.) in order to procure information.
- Category #4 Provides information based on parent contact. Contact is made with parent via in-person meeting, telephone or written correspondence, in order to procure information.
- Category #5 Provides information based on implementation of a procedure with the learner. For example, a systematic preference assessment is implemented, or the T. A. observes the learner during baseline and performance is documented and then reported.

**Generalized Performance by Technical Assistance Recipient**

- Category #1 The T. A. provider initiates the discussion. The discussion is based on previous interactions/information.
- Category #2 The T.A. recipient describes detailed examples of events that have occurred. Begins to hypothesize proactive solutions for the target student. Includes information such as, the function of the behavior, antecedents, consequences and environmental variables.
- Category #3 The T.A. recipient discusses the program's application in respect to another student(s) in the class/program. For example, "I think that James might benefit from a schedule program also".

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- Category #4 The T.A. recipient discusses the program's application with another staff member. For example, "This week I discussed how to use a reinforcer as a distractor with Jackie."
- Category #5 The T.A. recipient becomes more involved in decisions making. S/he proposes changes based on previous discussions and readings. Begins to make programmatic decisions independently (without waiting for directions from the case manager).

**Frequency of Contact**

- Category #1 Daily: The T.A. recipient contacts the case manager on a daily basis.
- Category #2 Twice per Week: The T.A. recipient contacts the case manager two times per week.
- Category #3 Weekly: The T.A. recipient contacts the case manager one time per week.
- Category #4 Semi-weekly: The T.A. recipient contacts the case manager at least one time, every two or three weeks.
- Category #5 No contacts: The T. A. recipient does not attempt to make any contact with the case manager.

#### **IV. How does the T. A. team record information pertaining to each of the technical assistance monitoring variables?**

In order for the pertinent information to be obtained on each of the T. A. monitoring variables, the T. A. team must develop a complete, yet concise recording form. It is of utmost importance that the team members develop this form, as they will be the individuals using it on a daily basis.

The procedures that follow are implemented by the T. A. team in order to develop a form that can be used to document the T. A. recipient's participation in the technical assistance process:

- Step 1: Large poster boards, pads or a chalk board is procured in order to display ideas generated during the meeting
- Step 2: The T. A. team members assign a note taker.
- Step 3: The team brainstorms all necessary information to be documented on the T. A. Recipient's Participation Monitoring Form. The information generated is noted on one of the poster boards or on one area of the chalk board. The following is a sample of ideas that may be generated by a technical assistance team.
- the T. A. recipient's name
  - the learner's name
  - the date the T. A. process began
  - each T. A. participation variable needed to be identified
  - each category that the T. A. performance might be rated as needed to be identified
  - the rating for the each variable needed to be documented for each team member/recipient interaction along with the date of the interaction
  - the date the T. A. process was terminated

Step 4: The team then designs the format of the recording form on the second poster board.

Form 3 is a sample recording form

Form 4 is a set of directions for the sample recording form

**X. How does the T. A. team summarize the information collected on each of the variables chosen to be monitored**

[To be created]

**XI. How does a T. A. team case manager introduce the suggested interventions and technical assistance options to the members of the IEP/IFSP team?**

The Steps \_\_\_ of the Program Tracking Procedures section of this module contains explicit instructions for introducing the suggested interventions and technical assistance options to the members of the IEP/IFSP team

**XII. How is the pertinent information collected by the T. A. team members?**

After each contact with the T. A. recipient (e.g., by phone, fax, in person) the case manager documents the T. A. recipient's performance on the "Staff participation in Technical Assistance Form". It is important that the case manager attend to the form immediately following their interaction with the T. A. recipient. This will help to prevent the case manager from forgetting important information, or neglecting to document the information entirely.

**XIII. When does the T. A. team begin implementing the T. A. monitoring procedures?**

The T. A. team should begin to conduct the T. A. monitoring procedures on a "trial basis" as soon as they begin working through their "practice" cases (See section \_\_\_ of this module). These practice cases provide each member of

the team an opportunity to work through the assessment and intervention process while being closely supervised by project staff. In addition, these practice cases allow the T. A. team members to modify the T. A. monitoring process so that it meets the needs of their district. It also provides them with experience using the data collection forms and analyzing the information gained from the entire process.

**XIV. How does the T.A. team make decisions based on the participation of the T. A. recipient?**

[To be developed]

**Recipient of Technical Assistance Profile**

Recipient's name: \_\_\_\_\_

Current placement: \_\_\_\_\_

Number of years: \_\_\_\_\_

Previous placement: \_\_\_\_\_

Number of years: \_\_\_\_\_

Highest academic degree: \_\_\_\_\_

Year graduated: \_\_\_\_\_

Other areas of course work: \_\_\_\_\_

Number of years teaching experience: \_\_\_\_\_

Sex: \_\_\_\_\_

Fig. 3

### Recipient of Technical Assistance Profile

Recipient's name: Sally Morgan

Current Placement: Oakridge Preschool

Number of years: 3

Previous Placement: Thompson Preschool

Number of years: 2

Highest academic degree: Masters in Special Education

Year graduated: 1988

Other areas of course work: Child Psychology

Number of years teaching experience: 5

Sex: Female

## Potential Variables to Consider When Monitoring Staff Participation in the Technical Assistance Process

Variables	Technical Assistance Provider	T.A. Recipient with prior planning (e.g., "give me a call on Friday")	T. A. Recipient without prior planning	Person/Person	
<b>Initiator of Contact</b>	Technical Assistance Provider	T.A. Recipient with prior planning (e.g., "give me a call on Friday")	T. A. Recipient without prior planning	Person/Person	
<b>Mode of Contact</b>	Mail	Fax	Phone		
<b>Frequency of Contact</b>	Daily	Twice per week	Weekly	Semiweekly	No Contact
<b>Specificity of Contact</b>	General discussion/ no decisions/no critical information	Description of procedural implementation (Best or worst instance)	Delineate specific problem e.g., "I think that the problem is...."	Request: - on site assistance - materials related to implementation - background infor. - data sheets	
<b>Staff management by T.A. recipient</b>	Communicates program to staff in the initial stages	Obtains procedural reliability	Has a systematic way of communicating to staff on a regular basis	<ul style="list-style-type: none"> <li>Parent communication</li> <li>Communication with other team members</li> </ul>	Provides specific feedback to the staff
<b>Documentation of Learner Progress</b>	Anecdotal reports	Data collected intermittently	Data collected regularly	Data collected and graphed	Data collected, graphed, and reliability data collected
<b>Responds to Requests</b>	Provides information based on prior experience/existing knowledge	Provides information based on review of records	Provides information based on discussion with other staff members	Provides information based on parent contact	Provides information based on implementation of a procedure
<b>Generalized performance by T.A. recipient</b>	Discussions are based on topics raised by the T.A. team member	<ul style="list-style-type: none"> <li>Summarizes problems systematically</li> <li>Hypothesizes variables to explore further</li> </ul>	Quaries program application to other students	Shares knowledge of interventions with other professionals	<ul style="list-style-type: none"> <li>Proposes changes based on readings</li> <li>Becomes more active in program planning</li> </ul>

## Staff Participation in Technical Assistance

Technical Assistance Recipient: \_\_\_\_\_

Date Began: \_\_\_\_\_

Child's Name: \_\_\_\_\_

Date Terminated: \_\_\_\_\_

DATE:																				
<b>Initiator of Contact</b> 1 = T. A. Provider 2 = Recipient (planning) 3 = Recipient (no plan)																				
<b>Mode of Contact</b> 1 = Phone 2 = Fax 3 = Mail 4 = Person/Person																				
<b>Specificity of Contact</b> 1 = General 2 = Description 3 = Specific Problem 4 = Request																				
<b>Staff Management</b> 1 = Communicates program to staff 2 = Obtains procedural reliability 3 = Meets with staff regularly 4 = Communicates with Parent/team 5 = Provides specific feedback																				
<b>Documentation of Learner Progress</b> 1 = Anecdotal reports 2 = Data collected intermittently 3 = Data collected regularly 4 = Data collected and graphed 5 = Data collected, graphed, reliability data collected																				
<b>Response to Requests</b> 1 = Provides info. based on prior knowledge/experience 2 = Provides info. based on review of records 3 = Provides info. based on staff discussion 4 = Provides info. based on parent contact 5 = Provides info. based on implementation of a procedure with learner																				
<b>Generalized Performance</b> 1 = Discussion lead by T. A. provider 2 = Summarizes/Hypothesizes 3 = Applies to another student 4 = informs another professional 5 = Becomes more active																				
<b>Frequency</b> 1 = Daily 2 = Twice per week 3 = Weekly 4 = Semi-weekly 5 = No contact	<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="border: 1px solid black; width: 40px; height: 40px; margin-right: 20px;"></div> <div style="text-align: center;">                         Week #1: _____                          Week #2: _____                     </div> <div style="text-align: center;">                         Week #3: _____                          Week #4: _____                     </div> </div>																			

## Form 4

### Technical Assistance Recipient's Participation Monitoring Form

#### Directions for use:

- Step 1: Note the T. A. recipient(s) name on the corresponding line(s).
- Step 2: Note the child's name directly under the T.A. recipient(s) name on the corresponding line.
- Step 3: Write the date that the T. A. process began on the line provided.
- Step 4: Refer to the Staff Participation in Technical Assistance: Definitions Form. The seven variables that are clearly defined according to category of performance on that form are noted in abbreviated form along the left hand side of the Staff Participation in Technical Assistance Form. The T. A. team member will assign one or more of these categories to the T. A. recipient's performance for each interaction.
- Step 5: Note the date of each interaction in the columns to the right of the performance variables.
- Step 6: In the Section labeled **Initiator of Contact**, place the number of the category that best describes who initiated the interaction in the column corresponding to the date of the interaction.
- Step 7: In the Section labeled **Mode of Contact**, document the mode in which the contact was made. This is noted by writing the corresponding number in the appropriate column (i.e., so that it corresponds to the date of the interaction).
- Step 8: In the section labeled **Specificity of Contact**, rate the level of specificity at which the T. A. recipient performed during the interaction. Place the corresponding number in the appropriate column (i.e., so that it corresponds to the date of the interaction).
- Step 9: In the section labeled **Generalized Performance**, there are a number of categories. It is possible that the T. A. recipient will engage in a number of generalized activities. Therefore, his/her performance can be described by more than one of these categories. In this case, be sure to note each category according to its corresponding number and note the number(s) in the appropriate column.
- Step 10: In the section labeled **Staff Management**, document each of the five categories in which the T. A. recipient participated. As in the generalized performance category, the T. a. recipient may engage in a number of these

activities. Be sure to document each one according to its corresponding number.

Step 11

To the write of the section labeled Frequency, calculate how many times the T. A. recipient and the T. A. team member interacted each week of the intervention. Place these numbers (e.g., 1, 2, or 3 times per week) next to the corresponding week (e.g., Week #1, Week #2, etc.). Average these four numbers, and rate the average according to the categories provided. For example, if the average is equal to 5, the rating that the T. a. recipient would receive would be "1" corresponding to the frequency rating of "daily". If the average was equal to 1, the T. A. recipient would receive a rating of "3" which corresponds to the frequency rating of "Weekly".